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NOTES ON EUROPEAN AGRICULTURE,

BY A CHARLESTONIAN.

NUMBER THREE.

WHEAT.

In my last I gave some notes on the rotation of crops in Great Britain,—a judicious mode of culture, which is now adopted to a considerable extent in Sweden, Denmark, and the grain growing countries in the North of Europe. Thus, the soil, although it does not annually give the same kind of product to the cultivator, is never idle, but produces in succession crops which are often more valuable than wheat itself.

As however wheat is not only one of the staple articles of Europe, but also of our own country, I propose to devote this article to a description of the method of culture.

1st. PREPARATION OF THE SOIL. The wheat crop, as I have stated in a former chapter, usually succeeds the fallow crop, which consisted of potatoes, beans, or turnips. This fallow crop is always richly manured. Stable manure is in a majority of instances used, and in most soils is preferred. It is spread on the fields broad cast in the proportion of twenty or twenty-five tons to the acre. In about half the cases it is scattered over the fields in the early part of winter, and ploughed under in December. Where time is wanting the manure is not applied till early in the spring, which, I am informed, answers equally well. Lime is much used on light sandy soils. In some parts of the coast of Holland, where the soil is poor and sandy, the application of lime has given a dark, rich colour, to the earth, which now retains its moisture and produces abundant crops. On the sandy lands between Berlin and Dreedon, resembling our Carolina pine-barrens, I noticed it used in some fields with very beneficial effects. Similar results have been produced in New-Jersey by the application of lime on bare sandy soil. Bone dust is much used in England on light soils. It is generally procured from the continent. A few mills for the purpose of grinding the bone for manure exist in England and Scotland, although they did not fall under my notice. A model of one exists in the agricultural museum of Edinburgh, which was politely exhibited to me by Professor Lowe. The construction is very simple: but as I believe it is well understood in the United States, and as I am not much of a mechanic, I need not venture

on a description. The bone dust is used in the proportion of twenty-five bushels to the acre; a greater quantity has not been attended with any increased beneficial results. It is sown broad cast on the land: sometimes mixed with turnip seed. Night soils, (a very valuable manure,) are limited to the neighbourhoods of towns, and principally applied to gardens. This article is prepared in the vicinity of Paris by a method rendering it not in the least offensive. It has the appearance of large, dried bricks, which are broken up when wanted, and applied to the land in the manner of bone dust.

When the fallow crop has been removed, the ground is ploughed and put in order for the reception of wheat: occasionally some manure is added, but it is in general believed that the ground is sufficiently enriched for the ensuing crop. The ploughing is similar to that of our own country. The wheat is sown from the middle to the end of October, generally in drills, but sometimes broad cast. The sowing or drilling of the wheat does not complete the labour till the time of harvest, as is the case in America. The wheat is regularly hoed between the drills two or three times, and when the wheat is about a foot in height, it is carefully weeded,—hence, we seldom find in English wheat either cockle, cheat, or the seeds of the various weeds with which our fields are so often infested. The wheat is usually gathered with the sickle. I saw no cradles, like those of America, in use.

2nd. QUANTITY OF SEED TO THE ACRE. In this particular I found a great difference of opinion between the British and American farmer. In this country a bushel of wheat is usually considered sufficient for an acre; formerly many persons only used three pecks per acre. I am inclined to think, that we have erred in using too little seed. I remember visiting the fields of a farmer in New-York many years ago, and observed that whilst the heads of wheat were very fine, the stalks appeared to stand very thinly on the ground. He had sown three pecks to the acre, and the produce was nine bushels. I suggested to him the propriety of using a double quantity of seed. Three years afterwards he sowed the same field again, using a bushel and an half of seed to the acre,—the season and tillage were similar to that of the former sowing. He subsequently informed me that his land this year produced fifteen bushels to the acre, and that he was now an advocate for thick sowing.

I extract from my notes on English husbandry the following quotation, which I either wrote down from the dictation of some responsible agriculturist, or copied from some agricultural journal of England: I am inclined to think the latter. I have reason to believe it is the usual mode adopted in England and Scotland.

"On rich lands in good condition when the soil is strong loam or clay, and well drained, two and a half to two and three-quarter bushels per imperial acre may be sufficient, of the ordinary varieties. As spring sown wheat does not tiller well, one half to three quarters of a bushel more may be necessary; but strong clays are not well adapted to spring sown wheat, although it is quite possible that a suitable variety may be obtained for that purpose.

"On medium soils one half-bushel more may be requisite for such season of sowing, regulating the quantity to the quality and condition of the soil, and the preceding crops. When potatoes have been raised in the fallow division, at least two or three pecks more may be necessary than after a clean fallow.

"On high and light lands, wheat, after fallow, should be drilled in from two to three inches deep, to prevent throwing out in spring. With this precaution, if the land is in good condition, little more seed will be wanted than on medium; but on such lands wheat holds best after grass, and in that case requires two or three pecks more seed than under any other circumstance."

As I have never seen the stalks of wheat so thickly crowded together in my own country as in Great Britain, and as their average crop is decidedly greater than ours I have accounted for the difference, at least in some measure, to the greater quantity of seed used by the European agriculturists, after making due allowances for the difference of climate and modes of culture. I remarked, that in England, in consequence of this thick sowing, there was but one stalk to each grain, whilst in America where the seeds were farther separated, there are usually side stalks, few of which produce equally well with the one proceeding from the grain. The additional quantity of seed sown is doubly compensated for, by the greater product to the acre. These, however, should be matters of experiment with us, in a climate where our summers are much warmer, as I am fully aware that lands may be too thickly as well as too thinly sown.

3rd. VARIETIES OF WHEAT IN EUROPE. Botanists have been much perplexed in endeavouring to decide on the true origin of our varieties of wheat. It is now difficult to ascertain what is the true *triticum sativum* or common wheat. In general the bearded and beardless wheats are divided into two species. The former are termed *triticum hybernum*, or winter wheat, and the latter *triticum aestivum*, or summer wheat. I am, however, inclined to think, that all the varieties may be included under one species, as there are no distinctive marks by which they can be separated. Under *triticum hybernum*, for instance, are included several of the earlier and the best varieties of spring wheat, and under *triticum aestivum* are included several bearded wheats equally hardy, and requiring as long time to arrive at maturity as our common winter sorts. Indeed, the recent French botanists have now referred all the varieties to *triticum sativum*. But this is not the place to settle nice botanical distinctions.

Spring wheat is seldom cultivated in England as a general crop. In every instance where I saw it growing, it appeared to me rather inferior.

In my last number I alluded to some of the varieties of wheat at present cultivated in England. The golden drop, blood red, Uxbridge, Hunters, Mengoswells, Whittington & Hicklings. The three latter, like our okra cotton and rohan potatoe, have been so recently introduced that they have not yet found their way into general cultivation. The specimens, however, which I saw were very superior, sufficiently so to encourage the American farmer to import the seed, which may be ordered from Lawson and Sons, Edinburg, or Loddige in London, or through any merchant at Liverpool. An order sent in July will be in sufficient time to enable the farmer to plant the seed in autumn.

The wheat called Leghorn, or Tuscany wheat, was introduced into England for the purpose of procuring straw for the manufacture of bonnets, &c.; but it was found not to succeed as well as the common rye, which is now exclusively cultivated in the Orkney islands, and the north of Scotland for that purpose.

In the northern parts of France, I saw cultivated pretty extensively,

very hardy variety of wheat called *Poulard bleu*, and *blé, bleu conique*. It is partial to rich clay soils; its grains are dark and very hard. An Egyptian wheat called *Blé de Smyrna* was also highly spoken of. There is a variety of wheat brought originally from Morocco that is successfully cultivated in Italy, but does not succeed well in the northern parts of Europe, that might be experimented on in our southern States. Its spikes are long, loose, nodding to a side, and awned; grains about half an inch in length—reddish, transparent, and very hard. It usually goes under the name of Polish wheat, although it is not much cultivated in Poland,—is said to have come originally from Morocco, and is often called Mogadore wheat.

I find in my journal, descriptions of nearly one hundred varieties of wheat cultivated in Europe, but doubt whether the transferring them to your pages would be of any material benefit to the American farmer, who, I fear, would scarcely import them even as an experiment. Should the seeds which I brought with me, and distributed through several parts of our southern country, be successfully cultivated, I will endeavour to notice them on some future occasion.

It would be of great advantage, were our agricultural societies to imitate the examples of those of Europe, in attaching a museum to their institutions, where not only the different grains cultivated might be exhibited, but also the stalks and plants preserved in a dried state,—the mode of culture and product carefully noted, for the benefit of agriculturists. I observed at Washington, during the last summer, a successful attempt of this kind by the intelligent superintendant of the patent office.

The English farmer has more to apprehend from the constant drizzling rains during harvest time, than from insects, which are the bane of the American farmer. The so called Hessian fly, has never been introduced, and the poor Hessian has sins enough to answer for on another score, without meriting the charge of conveying this pest to America in his straw. The insect is not known in Hussia, and although two specimens were shewn to me as having been procured in Sweden, they proved to be of a different and harmless species. I fear we will have to claim it, along with the opossum and rattle-snake, as exclusively American. The wheat of our country also suffers materially from other insects, which prey upon it, in its ripened state; hence, in many parts it is necessary that the crop be not only thrashed out, but immediately carried to the flour-mill. In England, on the contrary, I perceived stacks of wheat that had remained unthrashed for three and four years, and in many instances five or six, without any other molestation than that of the Norway rat—that cosmopolite, gregarious, omnivorous pest of all countries.

There are two of the sciences, however widely removed from each other, and however seldom thought of by the American farmer, that have long appeared to me as inviting greater attention in an agricultural point of view than has hitherto been devoted to it. I mean chemistry and entomology. The former enabling us to analyze our soils, and directing us as to the best modes for their improvement, and the latter in pointing out to us the habits and characters of those insects that prey upon our fruits and grains, without which we cannot find a remedy against their depredations.

ACCOUNT OF AN AGRICULTURAL EXCURSION INTO ST. JOHN'S, BERKLEY.

BY THE EDITOR.

[CONCLUDED FROM PAGE 84.]

Sweet Potatoes are here, as in all the lower part of the State, grown in considerable quantities; every planter endeavoring to raise as many as will serve the plantation from the middle of August to March, when they are no longer deemed wholesome or nutritious enough for laborers. It is a matter of regret, that more attention is not paid throughout the State to this crop, which is destined, at some future day, to be of the greatest value to us, not only as food for our negroes, but also for our horses, cattle and hogs. This root far surpasses in nutritious qualities, the far-famed turnip, which is considered so immensely beneficial to England, and which has almost regenerated her agriculture. Nor will it yield the palm to the mangel wurtzle or the sugar beet, which the feeders of stock are at present extolling so highly, the latter almost extravagantly. These may, in the Northern and Western States, be the best roots which can be grown for stock, but in the lower parts of this State at least, (and in all probability all farther South) none of the varieties of the beet can be advantageously grown, as they invariably rot, if sown at the usual time, and if sown in summer, it is a very difficult matter to get a stand, owing to the depredations of the cut worm, heavy rains and hot suns, and if these be got over, the product is found to be comparatively small.

But we need not seek abroad for means of supporting our stock. The potatoe possesses all the qualities requisite, in an eminent degree, and if we will bestow on it but one half of the attention required to produce even a tolerable crop of beets, we will be repaid by a much larger and more valuable one of potatoes; but as long as it is planted on poor ground, without manure, and receives but 1 or 2 workings, as is the case in many parts of this State, we have no reason to expect any other than a scanty return. Manure and prepare the ground well, give the crop as many workings as are necessary to destroy the grass and keep the soil open, and the increased product will astonish any one who has not made trial of this course. We intend not to discuss the merits of this crop here, we may perhaps refer to it again, though we would be much better pleased, to see the subject taken up by some of our readers.

The ground selected for Potatoes, usually lies contiguous to the negroes' quarters, and its nearness is more regarded than its particular adaptation to this crop, for as the allowances given out during summer are daily, (owing to the liability of this root to rot, and the product being increased by their remaining in the ground,) the hands are not compelled to go far for their food, when their work is finished. So great a weight has this had with some, that they have preferred planting particular spots, which yielded but comparatively small returns, to cultivating them on more distant fields, where the product would be greater. It was hoped that by manuring liberally, a change of fields would be rendered unnecessary; but experience has proved that this crop at least, cannot be cultivated in the same fields continuously, for any length of time, no matter what quantity of manure may be applied. Perhaps when our

scientific acquirements shall be greater, we may be able to discover what particular substance has been exhausted, restore it to the soil, and neutralise the excrementitious matter, which, according to Macaire, is deposited and proves injurious to plants of the same species. At present, we must rest satisfied with the fact, and act accordingly. Two instances of this exhaustion were mentioned to us, and we understood that others had occurred. In one instance, roots were planted in a field for 13 years, when it was entirely exhausted, although the last year it was manured at the rate of from 7 to 800 bushels of compost manure per acre. In the other instance, slips (vines taken from the roots) were cultivated in conjunction with oats, for 10 years, when this field also failed to yield a crop. The plan of treatment was the same as that we shall presently detail when giving the culture of this crop.

All of the *varieties* of the Potatoe are cultivated in this parish, but the Yams are the favorites in Middle St. John's, while the Leather Coats have the preference in the upper part of the parish. The Red potatoes, (red skins with white flesh) are cultivated in small quantities, being considered excellent in bowel complaints, especially among children. The adaptation of the different varieties to different soils, is but little attended to, by any of our planters. We cannot but think they pay less attention to this than it deserves, for every planter must have observed, that all do not grow equally well on his plantation, that there is sometimes a difference even in fields not far distant from each other, and that his neighbor succeeds in raising those best in which he fails. This may be illustrated, in some measure, by experiments made in this parish, a few years since. On a piece of ground, manured and cultivated alike, Mr. Isaac Porcher obtained from a row of 150 feet long, of Brimstone potatoes, (red skins with yellow flesh) four and a half bushels, whilst from an adjoining row, planted with Yams, he obtained but two and a half bushels.

Dr. Ravenel planted several rows, dropping the Yam and Spanish Pumpkin alternately on the same rows. One row of one hundred and fifty feet in length, produced two and three quarters of a bushel of Yams, and but two bushels of Spanish Pumpkin. Another row yielded two and one-eighth of a bushel of Yams, and only one and three-fourths of Spanish Pumpkin. It will be observed that the Yam, in Mr. Porcher's experiment, produced but $2\frac{1}{2}$ bushels to the row of 150 feet, whilst on Dr. Ravenel's plantation, from half of that space, he produced $2\frac{3}{4}$ and $2\frac{1}{8}$ bushels, equal to $5\frac{1}{2}$ and $4\frac{1}{2}$ bushels per row, making a difference in favor of the latter, of 225 and 131 bushels per acre. In another instance, Dr. Ravenel obtained at the rate of seven bushels per row, or 525 bushels per acre, and this from a considerable space of ground.

On the seaboard, roots are planted only in quantities sufficient to furnish vines for planting, and for allowances until November, the "slips," (those produced from the vines) being the principal crop, on account of their keeping better through the winter, and producing nearly, if not quite as abundantly as the others. In St. John's, on the contrary, the root crop is the principal one, and as much ground is planted with it, as is supposed necessary to furnish the plantation from the middle of August until 1st January, from which time the slips are made use of, and these generally last until March, and sometimes April, though they are not given to the negroes after they become watery.

In preparing the ground, the manure is first spread, and then listed on. Compost and cotton seed, are those most used. Some few still follow

the old plan of "cowpening," but the first mode is now generally adopted. The compost manure is applied in quantities of from 8 to 10 ox cart loads. The cotton seed at the rate of from $\frac{1}{2}$ to $\frac{3}{4}$ bushel per row. The beds are what may be termed small for potatoes, being but about 30 to 36 inches base, and from 12 to 16 inches high, and brought nearly to a sharp ridge. By most planters, the beds are made at one operation. Major Porcher's plan is somewhat different,—a list is first made, and on it a very small bed, which is gone over and slightly increased in size. This is gone over again, and the bed made of the full size intended. By pursuing this mode, the grass seeds are more effectually buried, and the crop does not require, and actually receives, but one working. The beds are usually four feet apart, which is considered preferable to five feet, the distance allowed in some neighborhoods. The potatoes are planted throughout the month of March, and even in the early part of April, according to the season, and state of forwardness of the other crops.

By a large number, the potatoes are planted whole, as it is thought that vines may be obtained from them earlier. Others cut them, as their is a considerable saving of seed by so doing. No difference in the product of the cut and uncut has been observed. We rather think, however, that when an *accurate* experiment shall be made, a difference will be found. If cut, the sets are placed about 8 inches apart on the bed—if uncut, about 12 inches. Should the Potatoes come up irregularly, Dr. Ravenel prefers supplying the vacancy with sprouts taken from the sets which have sent up a number.

By some only one working is given, and the grass afterwards picked out. Others give two. In each, the bed is hoed down, and immediately hauled up. Some, however, do not haul up for several days, so that the grass may be effectually killed. Some times the plough is used to break up the alley, and which furnishes earth to enlarge the bed.

As soon as they will yield a bushel to the row, (which commonly is about the middle of August) they are dug for allowances for the negroes, which, at this time, is given only in small quantities, for the reasons already stated. They are never harvested, but left in the field until they are consumed, or destroyed by frost. The great difficulty of preserving them, and the almost certainty of losing a large portion, is the cause of their not being dug and put away, as are the slips. We have, however, seen them on other plantations, kept until January, (how much later we know not) in potatoe cellars, in which a fire was regularly kindled every day. This served to dry the moisture which, in the form of steam, emanated from them, and to which, principally is ascribed the injury they sustain. They keep very well when left in the beds in which they grow, but care must be taken to go over and cover the tops of the beds with a little earth, or those near the surface will get frost bitten, and of course rot. From 100 to 150 bushels is the usual average crop from unmanured land per acre,—from 3 to 500 from manured.

The ground intended for slips, is commonly sown down with oats, which are highly manured with either compost or cotton seed—the latter in the quantities of from 12 to 16 quarts to the row of 150 feet. When compost is used, Dr. Ravenel trenches the ground deep, sows the oats, and fills the trench with the manure and a little earth, burying them about 9 inches deep, through which they shoot and grow finely, and suffer less from drought than when sown above the manure. This deep planting is not, however, generally followed. From oats cultivated in this man-

manner, he obtains an average of 30 bushels per acre. When the oats are harvested, the ground is listed and bedded, as for roots; (but no manure is applied,) and as soon as the vines have grown long enough, and there is rain, the crop of slips are planted, using three vines, placed along the bed and banked at short intervals. It is usual to hoe them twice, when the vines will have covered the beds, and render all further working unnecessary. Early in November, if the weather be very cool and frosts threaten, they are dug and put away, either in cellars, made with pine puncheons, (such as are common all over the country) or in hills, covered with corn stalks, pine straw and earth. The latter at first only in small quantities, which is increased gradually as cold weather sets in.

We have thus given a hasty sketch of the management of the three principal crops grown in Middle and Upper St. John's. Their Rural and Domestic Economy, as well as their management of negroes, and various other topics, connected with the business of a Plantation, we will at present refrain from noticing, as it is probable we may pass through the parish on some of our proposed excursions, and we will be enabled to gain further information, and furnish a more interesting report than we can now possibly give.

ON THE CULTURE OF CORN.

THERE have been a number of highly interesting Agricultural Meetings at the Representatives' Hall in Boston, which have been distinguished by the number and importance of the Agricultural subjects discussed, as well as the talent, practical knowledge, and high standing of those who have participated in the discussions. These meetings have been held while the Legislature were in session, and which materially contributed towards the bringing together of the practical farmers from the different sections of the State, (and also from other States) whose experience, detailed at these meetings, added greatly to their interest. We hope that such meetings and discussions will be got up at the meeting of the Central Agricultural Society in November next, at Columbia. We intend to lay before our readers the proceedings of some of these meetings, and select for our present number, that of the *fifth*, as giving information which is not only valuable but may be made available by our Planters.

[ED. SO. CABINET.

The Chair then announced the subject of the evening's discussion to be Indian Corn.

The Commissioner then proceeded to give some views of the importance of this crop to the State, and the produce per acre which had sometimes been reached. In Pennsylvania, on five acres of land in the same field, one hundred and thirty-five bushels of corn to an acre had been produced. In New-York State, at Whitesborough, near Utica,

more than 170 bushels had in three several instances been produced on an acre. In our own State, in Essex county and Middlesex county, more than one hundred and sixty bushels. In Plymouth county one hundred and thirty-six bushels, as measured at harvest on the cob, and one hundred and ten bushels, as measured in the succeeding March, after being shelled. He likewise had the pleasure of giving them an account of a crop grown the present season in Southbridge, by Dr. Samuel Hartwell, which yielded, as was certified in the most respectable manner, one hundred and fifty and one-half bushels upon one acre, one rood, and four rods of land: this would exceed one hundred and seventeen bushels per acre. The Commissioner then proceeded to read the statement of Dr. Hartwell, giving all the particulars of his cultivation, the nature of the soil, the mode of manuring and planting; and to exhibit a sample of the corn grown.*

After this, Mr. Allen Putnam, of Danvers, and Mr. Wm. Clark, of Northampton, Members of the House, and Mr. H. C. Meriam, of Tewksbury, and Mr. James G. Carter, of Lancaster, proceeded to address the meeting in a full and instructive manner, in regard to their modes of cultivation and the uses and value of the product.

Mr. Putnam considered the value of Indian corn, as food for man and cattle, and pronounced it one of the most profitable crops which could be grown: he referred particularly to his farm in Danvers. The comparative value of different crops will vary of course in different situations. The soil of the farm on which he resides is loamy and gravelly. The depth of the loam is not uniform: in some parts it is black; in others it is heavy but not wet.

Formerly, the practice on the farm was to put ten loads of manure to the acre, and this was placed in the hill. A good crop at that time was forty bushels. Fifty would have been considered very large. The crops now are much more than that, and this increase comes from an increase of manure and improved cultivation. The kind of corn planted and which has not been changed on the farm for years, resembles what is called the Brown corn. It was formerly an early, now a late corn.

The crop obtained on the farm in 1839 was at the rate of 77 bushels per acre; in 1838, 80 bushels per acre; in 1837, 35 bushels of ripened corn and 37 bushels imperfectly matured but not worthless; in 1836 the crop suffered more than in 1837, but in this year he was absent from home, and he must therefore leave it out of the account. The crop has been cut off three times only in 60 years, viz: in 1816, '36 and '37. In 1835, the yield was 95 bushels per acre; in 1834, 75 bushels per acre. Through the years enumerated then, the crop has averaged 68 2-5 bushels per acre.

The expenses of cultivating an acre were estimated at 75 dollars; allowing in this case 40 dollars for manure. The value of the corn fodder was estimated as equal to one ton of hay, 15 dollars. It would be right to allow one-third of the expense of the manure for improvement, as its advantages would extend beyond the first crop. Charging interest upon the land at 100 dollars per acre at six dollars, and including every expense, the net profit of the crop would be \$25 63. This is as fair a profit as can be generally obtained from any cultivation.

* This communication will be given to the public hereafter.

His mode of cultivation is to spread ten or twelve loads of manure in the autumn and plough it under. In the spring he would apply the same quantity to land, which from any circumstance he could not plough, in the fall. He is accustomed to plough from 6 to 8 inches deep. Though they have made repeated observations, they have not been able to perceive any difference in the crop on land ploughed in the fall or in the spring. In the spring he applies from his compost heap or barn cellar, 23 loads more of manure, which is put into the hill. The land for planting is furrowed both ways at right angles and at a distance of 3½ feet apart. The large crop of corn referred to was obtained on land newly broken up, and which had been some time in pasture. His crop the last year was injured by a severe storm, which checked the filling out of the ear, and the crop was 87 bushels 19 qts. per acre. Corn planted in hills at 3 ft. apart, gives 4300 hills to an acre.

When corn was planted on land upon which the manure is spread, it seemed at one time "to come to a stand." Where the manure had been placed in the hill, it advanced rapidly. In July, however, the corn on the first named land, came up with that on land on which the corn had been manured in the hill.

His corn is harvested by being cut up and "stooked." Three hills form a bundle; four bundles a stook. In the cob, the corn weighed 83½ lbs.; shelled 60 lbs.

Mr. Clark, of Northampton, followed Mr. Putnam. His object was not by extraordinary cultivation to obtain the largest crop which could be grown; but to obtain the best return for the time, for the labor and capital employed.

His experiments in the cultivation of corn had been made upon light and worn out soils, pine plains; and his great object was to bring these lands into grass. His own experience had taught him that Indian corn was the best crop for this purpose. He should find it difficult to say what he would on this case, because the cultivation of this crop involved many points on which he would gladly enlarge, but the limits of the occasion did not admit of it. The ploughing and preparation of the land, were matters of great importance.

Farmers should seek instruction. They should endeavor to understand why they obtain a crop, and all the circumstances which must combine for the success of their husbandry. They apply expense—of time, labor and capital. Labor itself is capital. Unless they can understand the reason why labor is effectual, and what mode of applying it is best, they cannot apply it to advantage, and much that is applied will be necessarily thrown away. Labor constitutes the great expense of cultivation. Results are the effects of causes. We must seek to understand the causes, and we can then to a considerable degree, determine or modify the results. From the want of this knowledge, misapplied labor becomes money thrown away.

In proportion to their estimated value and the cost of cultivation, more may be obtained from light lands than from any others. Corn, as he had stated, was the best crop for bringing them into grass. Oats are an exhausting crop. Oats and rye and the small grains, are of the same character as grasses. They exhaust the land of that principle which is congenial or necessary to grass. On this doctrine is founded the necessity for a rotation of crops.

He has obtained corn upon these light lands without any manure at all, by taking advantage of the vegetable matter contained in them. Cold heavy lands require much manure. Light lands are cultivated with much less labor. They are, in his opinion, favorable to grass. These notions are opposed to prevailing opinions. He will not assert positively that moist and heavy lands are not, strictly speaking, more favorable to grass; but light lands give a sweeter kind of grass, and the amount is greater or the return better, than upon heavy lands, when the expense of manure and labor in the two cases are compared.

Ploughing is a most important operation in reference to the productiveness of the land. Differences of opinion in this matter prevail among farmers. Some prefer laying the furrow slices upon each other, or as it is termed, lapping them. He prefers to lay the furrow slice as flat as it can be laid. In this way he would cover up all the vegetable matter which was on the surface, that it may be effectually excluded from the air; and the progress of decomposition go on with as little waste of substance as possible. The proper depth of ploughing is matter of controversy. Earl Stimpson, of Galway, in New-York, one of the most successful farmers in the country, ploughs not more than three inches. He does not approve this shallow ploughing. He has tried it and was unsuccessful. He now ploughs from 6 to 8 inches in depth, where the depth of soil admits of it. He goes as deep as the loam, but objects to bringing to the surface the subsoil. He disapproves much of what is called the "cut and cover" system of ploughing. He would have the whole surface completely inverted and well cultivated. This thorough and careful ploughing gives a better result. Farmers fail more often in ploughing than in any other agricultural operation. If it is not done well at first, it is difficult afterwards to correct faults or remedy deficiencies. If patches of sward are left untouched by the plough, he causes them to be turned by the hoe. He straitens his furrows and is careful to leave every thing smooth. At the time of ploughing, these corrections can be made at a saving of a quarter of the labor which would be required to accomplish it afterwards. After this is done, he is careful to pass over his fields with a roller, and completely settles the furrow so as to cover up all the vegetable matter which was on the land. The difference between this and the usual modes of ploughing, is very striking in the results. The roller he considers indispensable. If the land is not rolled, the grass will grow up through the furrows, and the sward will not be rotted. His crops sometimes reach thirty to forty bushels per acre. He has sometimes obtained these crops without manure. On these light lands, if he can have but one, he prefers a roller to manure. He considers grass on these light lands as the most valuable crop, and indispensable to their improvement; and without the use of the roller it would be difficult to bring them into grass.

Mr. Clark here read some extracts from the address of Mr. Allen Putnam, at the Essex Agricultural Show last autumn. We intend soon to give this excellent address to our readers in full, and therefore omit the quotations.

Mr. Clark proceeded to say that he thought too much stress was laid upon the benefit to be derived from hoeing corn. When there were no weeds, he preferred passing a harrow among the corn to hoeing, especially on account of the saving of time. He harrows his corn once in four days, alternately each way, if the weather admits of it. The growth

of corn by this process is very rapid. Where corn is hilled, it required two or three days to recover itself from the injury of the hoe or plough. The admission of light and air is most important. Some persons doubt whether light has any agency in respect to the crop. After three or four days of cloudy weather, any one may observe that the tops of the forest trees become yellow. After a bright sun, the appearance will be changed. The effect of excluding light in bleaching the celery plant, every one knows. The stirring the earth around cabbage plants, a fact with which every farmer is familiar, quickens their growth in a remarkable manner; and this from breaking the crust which forms on the surface after rains or dews, and without any reference to the eradication of weeds. The opening, therefore, of the surface of the ground to the access of light and air, is of great importance. The surface becomes impervious to light and air, when it is not stirred, which checks the growth of the plant. This crust must be broken, and this may be done by the harrow more effectually than by the hoe, and at a tenth part of the expense. Weeds must not, of course, be suffered among growing crops, but the loosening of the surface is a matter upon which too much stress cannot be laid. Some persons advise at the first hosing to take away the earth from the hill and supply fresh earth. He does not know the advantage of this. The hilling of corn is not approved by Mr. Clark. In the account given of hilling, in Dr. Hartwell's crop, he does not perceive any, decisive evidence of its advantage. Corn throws out many lateral roots: these are always near the surface: here the roots find their principal nourishment. No advantage can come from burying these roots by hilling. The roots of the corn will cover the whole surface if suffered to extend themselves freely. No advantage can come to any annual plant from cutting off the roots, as must be done by ploughing and hilling. When the surface only is broken, corn advances without interruption. Much labor is expended uselessly in hilling corn. The only object of such labor should be to destroy weeds. The corn suffers much after such an operation, in endeavoring to accommodate itself to its new condition. He deems it a very bad practice to turn weeds under. Corn is in this way sometimes very much injured. A neighbor of his, Mr. Henry Shepherd, of Northampton, with a view to determine the utility or evil, if any, of hilling corn, has made a series of experiments for several years, by hilling half an acre moderately in the middle of his field. The rest of the field, manured in the same manner, has been cultivated without hilling. The results show conclusively that the crop is diminished by hilling. The hilling of the corn hastens its ripening, but it is at the expense of the product. Cutting its roots like topping the stalks, tends to ripen the crop prematurely: and in a proportional manner to diminish its productiveness. In a season of early frosts, the crop has been partially saved by thus forcing its maturity; but in favorable seasons, the ripe crop will be considerably lessened by such a process.

Mr. Clark declined adding more at this time, as he would not be thought to desire to monopolize the time of the meeting. There was much more, however, that he would be glad to state. We hope he will not fail to avail himself of an early opportunity to continue his instructive remarks.

H. C.

New England Farmer.

PINE PLAINS.

Mr. Editor,—Having lately bought a farm of white pine plains nearly worn out by the *skinning system*, I make a few queries and hope that you will answer them through the medium of your useful paper, or publish them that some of your correspondents may do it. It is chiefly very dry sandy or gravelly soil. It is, in short, what is usually called "weak leaky land."

1st. What kind of manures are best adapted to such land?

2nd. What kind of crops are most suitable for it? Manure being scarce on the farm, and I wish to know whether lime, plaster or ashes would be most suitable for it. I thought of trying plaster, but some persons have tried it on their corn, applied to the hill, say that it was of no use.

3d. I wish to learn whether deep or shallow ploughing would be best?

4th. How would the growth of an orchard be best promoted on this land, as it is doubtless much too dry for that purpose? It is now decaying and much infested with ants, &c. By attention to this subject you will doubtless benefit many others, as well as

Yours, respectfully, A SUBSCRIBER.

Weston, Jan. 30, 1840.

By the Editor. The above queries involve too much to be answered fully in a single article. We shall reply in short, and should be happy if some of our numerous readers who cultivate pine plains, would let us know their most successful method of improving them.

Pine plains have been regarded by many as our least valuable lands, and so perhaps they are with the method of cultivation that has generally been pursued with them, but when they are managed according to the most approved system, we have no doubt that they will prove to be our most profitable lands, as they can be worked with very little labor and the most of that can be accomplished by animals with suitable implements and machines.

As this subject has received but little attention even in this age of improvement, we shall recommend what we are confident is a good, or improved system, without a confidence as to its being the best that can be pursued; for we yet have much to learn as the management of our light lands that have been abandoned by many as useless. Experiments in their renovation have not been sufficiently numerous and varied, and those who have attended to them have different opinions as to the best article for green crops as manure, the best root crop, the effect of lime, plaster, &c. &c.

1st Inquiry. As to manures, most all kinds that a farmer has would be useful; but as it is desirable that such lands, which are extensive in many parts of our country, and often far from the buildings of the farmer, should be enriched without taking the manure usually produced on a farm, we will speak more particularly of those manures which nature has provided in great abundance, and which are generally found in the vicinity of pine plains.

Mud and muck, from low lands and swamps, and leaves and other decaying and decayed vegetable substances in forests and low grounds

can often be obtained with convenience, and they form excellent manure. There are usually sluggish streams near pine plains, which run through rich alluvial bottoms where may be obtained an abundance of fertilizing manures.

There is generally clay and sometimes clayey marl, near pine plains and these are valuable manures and their effects are permanent. As a sandy soil has too much sand and too little clay for a well constituted soil, an addition of clay or clayey marl will improve the texture of the soil and have a lasting effect; they continue in the soil so that they would prove beneficial even hundreds of years after they are added to it.

When these materials which we have recommended are to be found near the land, as is often the case, two hands with one team will do a great deal in a single day in the improvement of an acre. The whole expense may be repaid in one year. This has often been the case. In several instances where swamp mud or muck has been carted on sandy or gravelly soils, it has proved as valuable as barn yard manure, and it is more permanent in its effect.

Though we speak of adding clay and marl to a sandy soil under the head of manures, yet these substances are not strictly speaking manures, but they serve to improve the texture of the soil by making up, or helping to make up a due proportion of simple ingredients of a fertile soil.

Lime, plaster and ashes generally prove very useful when applied to a light soil; though many instances are named where the two first had but very little or no effect. Many cases have been mentioned where they have had a surprising effect, increasing the green crops that served as manures. An excess of sand produces a dry soil, an excess of clay a wet soil. In this respect lime holds an intermediate place and added to a clayey soil renders it more dry, and added to a sandy soil, it renders it more retentive of moisture; of course it will improve a wet or dry soil where there is not already a sufficiency of lime in the soil.

As plaster attracts moisture it will generally be beneficial to dry soils. In many cases it greatly increases the crop. We have observed a great difference in a piece of corn where only a part had a small quantity of plaster applied to the hill at the time of planting. The corn where plaster was used was enough superior to pay ten times the expense. It would be well for farmers to try the effect of lime and plaster upon their lands; and make an exact experiment by using them on a part and omitting a part in the same lot.

All kinds of manure produced upon a farm are valuable for improving pine plains, and if a farmer has no other land, he will of course apply them to this purpose.

Green crops for manure are used to great advantage on pine plains and other similar lands. Large tracts have been completely renovated by this manure alone, and rendered very fertile, producing abundant crops that have repaid all expense and given a handsome profit beside. When manure from the farm, clay, marl, lime, plaster, and mud, all or a part, are used as convenient, green crops may come in as an additional advantage, unless a large quantity of several of these articles should render further manuring unnecessary.

There are different opinions as to the best green crop for manure, and the manner of conducting this plan of enriching land. If other manure is applied to the land a crop may be taken off at the same season that the green crop is produced; in this way the ground would not lie

idle, or go without a crop every season that would produce an immediate profit; but where land is very poor, it may be best to devote it to the production of green crops for manure, at least for one season, as but little can be obtained from it the first year unless some manure be used.

Clover sown in the fall with winter rye, may be turned under after harvesting, with the stubble, which will improve the soil much, while a regular crop of grain is obtained. Or after a crop of clover, the ground may be ploughed, and the sod with the large roots of the clover will make an excellent manure; and if this be done soon after haying, and rye be sown, it will get a sufficient growth to turn under the latter part of May or first of June, (as may be necessary for the crop that follows) in season for a crop of corn, barley, Indian wheat, buckwheat, or some root crop.

If the ground be ploughed immediately after rye, as we have named above, and rye sown immediately, it will get a pretty good growth, so as to furnish a good quantity of vegetable matter to enrich the soil, in season for late sowing, planting Indian corn or root crops. We think that both of these methods will be excellent for improving light lands. There will be two manurings of vegetable matter after the crop is taken off in the latter part of summer before another is sown or planted, and this course will doubtless improve the soil if no other manure be added.

In ploughing in a green crop it should first be rolled in the direction that the plough is intended to run; and after ploughing, the land should be again rolled. See in another column Mr. Clark's remarks at the Agricultural Meeting; they are highly valuable to those who cultivate light lands. [Page 138.]

As pine plains, after being well cleared, can be easily worked, they can be improved at a moderate expense, by ploughing in green crops. When no crop is taken from the land and all that is produced is turned under for manure, clover, rye, oats, or buckwheat may be used for this purpose. If rye be not sowed in the fall, it should be sown early in the spring and ploughed in when it has attained a good growth, the same course may be pursued with oats. A green crop is considered most valuable for this purpose when the plants are in bloom. If summer, rye or oats be used, it can be turned in seasonably to sow winter rye for a crop the next season, or to furnish another green crop before planting or late sowing as we have previously recommended.

If buckwheat be used, it should be sowed when the weather has become warm in May, and it can be turned under in season to raise another crop for the same purpose, or to raise a green crop of rye as just named. Clover is one of the most enriching of green crops, but it does not grow so rapidly as some others; on this account it should be sowed as early as possible; early in the fall, late in the fall, or very early in the spring, as may be expedient on account of other crops. We have sowed clover with oats, for the purpose of ploughing it in with the stubble, and though it attains but a small growth in this short time, we think it will more than pay the cost.*

[TO BE CONTINUED.]

* Other crops might be advantageously substituted for some of the above, and a change in the time of sowing these may be necessary. On the improvement of worn-out land, we intend hereafter giving our views somewhat in detail.

For the Southern Cabinet.

PRODUCT OF AN ACRE OF COTTON.

Dear Sir,—Below you will have the product of an acre of Short Cotton, that was manured the last year and planted on pine land that had been planted for the last seven years without rest. I put 300 bushels of compost manure on the acre; it was planted about the 10th of April, and it yielded 300 lbs. of clean Cotton. The ground was listed, and the manure put on the list, and then it was banked up.

If this piece is worth a place in your work, it is at your service, and I remain yours, with respect.

COLLETON.

AMERICAN AND INDIAN COTTON.

Our readers are aware, no doubt, that certain parties in England have lately brought up a question as to this subject, which materially concerns this country; viz. whether there is any probability that England can hereafter raise her own supplies of the raw material for her immense cotton manufactories. Some light is thrown on this matter, or at least on foreign views of it, by a Report, which appears in the London Athenæum, of Nov. 23d. As it is not voluminous, we annex the whole.

"A paper was then read by Gen. Briggs, 'On the cotton trade of India.' One of the principal objects of this paper was to show that the people of Hindostan are as capable of furnishing Europe with cotton as the inhabitants of North America; and that, under proper arrangements, both the quantity and quality of their produce would fully suffice for all the requirements of our manufacturers, without the necessity of our relying on the slave-labor cotton of America. The paper began with a calculation of the quantity of cotton actually used in dress by the natives of India. Specimens of the several articles of costume were exhibited; and it was shown that the dress of the male Hindoo contained $24\frac{1}{2}$ square yards, and that of the female about $8\frac{1}{2}$ square yards, which, allowing that they were renewed, on an average, at least once a year, the consumption would amount, among the whole population, to 375,000,000 lbs.; and it might be fairly inferred, from the various other domestic uses to which cotton was applied in India, that as much again was so employed, making a total annual consumption, by the natives themselves, of 750,000,000 pounds. The quantity imported into England is from 4 to 500,000,000 pounds annually, and this is chiefly raised in America, not more than one-tenth coming from India. The question naturally arises why should this be? The cause of the deficiency of the supply from India, Gen. Briggs stated, were closely connected with the administration of the country; he should not further allude to them in that place, but would proceed to demonstrate his position, that India might supply cotton sufficient for the manufactures of England, and; if necessary, for the whole world. It is needless to follow the details presented, but the result of a great number

of statements and reports from the best sources, showed evidently that scarcely any portion of the surface of India was unfit for the growth of some kind of cotton. The great table-land of the Dekkan, the soil of which is formed of the debris of trap mountains, is the cotton soil par excellence, and is suited to the *gossypium herbaceum*, the indigenous cotton of India.

This soil lies upon limestone. It is rich in vegetable matter, and is retentive of humidity; but in hot, dry weather it cracks into large fissures. It is at that season hard and clayey, and brittle, like coal. This clayey soil, so fit for the indigenous plant, is unsuited to that of America, which grows best in a light, dry, silicious soil, and, as most former attempts to introduce the American cotton into India have been made upon the rich trap soil of the country, they had necessarily failed. But the soil best adapted to American seed is also found in India, near the coasts, where the original plant does not succeed. This was proved at the various experimental farms established by the East India Company, and on which the American plant was growing to perfection. In order to point out the differences which existed between the various kinds of cotton in use, a diagram was exhibited, showing the various lengths of the fibres of different kinds. In many specimens of cotton the fibre had a flag tape-like appearance, while in others it looked like a string of oval beads, pointed at each extremity. Some kinds were more cylindrical than others, and the Surat and Sea-Island cotton is thickest and narrowest, and the Tavoy and New Orleans flattest and thinnest. In length of staple, the American surpasses the East Indian, but the latter was the finest. Some idea of the extreme minuteness of the fibre of cotton might be formed from the fact that it required thirty-five fibres to make the smallest thread spun at Manchester, 350 hanks of which weighed only one pound, and would measure 165 miles in length. But it had been shown that the natives of India could spin thread with the hand, four of which would be required to make up the bulk of one made by machine at Manchester."

Boston Notions

ON REARING AND FEEDING SHEEP

THE improved Leicester and South Down breeds of sheep are now rapidly banishing all other varieties, as there are very few situations in England to which the one or the other is not suitable. There are certainly a number of other varieties and crosses yet used, but the management of all is nearly similar, so that in detailing the improved management of these breeds, we will comprehend the general practice, except in the case of hill flocks and bought stores, in which the arrangement may be different, and yet the process be essentially the same. In the month of September the sorting and culling process takes place, and that period of the year may very fitly begin a few remarks on the annual course of sheep breeding, as being the commencement of the labors of the farmer in that department of his business.

Whatever breed of sheep the farmer may have adopted, it is under-

stood that he has rams bred on his farm, or that he hires from breeders who let tups for one season for a stipulated price. The sum now varies from £10 to £100, but a sufficient animal of any breed may be got under £40, and the South-downs yet fetch the highest prices. Formerly it was the custom with farmers, and is yet in several places, to turn at random a ram among ewes without bestowing any care, scarcely even a glance at the relative qualities of each; and hence arises the great dissimilarity to be observed in quality and form, not only among sheep, but in all other live stock in the hands of an unskilful breeder. In mentioning this custom in a late article on breeding, Earl Spencer very judiciously observed, that any farmers who breed in that manner never can expect a flock possessing the desired properties, either in form or quality. A lot of cows, of heifers, or of bullocks on a farm, or of ewes and lambs, and lots of hogs, male and female, sorted together, never please my ideas of breeding, when I see a great difference in size, shape, and quality of wool and carcass in the latter; and a dissimilarity in cattle, whatever breed is adopted, in size, and shape, and even in color, where it is naturally uniform or nearly so. Such faults must arise from want of attention, for no greater expense attends it. In the case of horses the fault is far more glaring; for any animal of whatever shape, size, or color, when worn out or disabled for other purposes, is laid aside and thought good enough for breeding. Bad qualities are thus transmitted for generations, and it is curious enough that farmers who have very excellent flocks of sheep by attending to qualities, never apply the principle to cattle and horses, but use a motley and unprofitable breed. In the case of sheep, of which animal we are now speaking, when I see a flock, old or young, that shows a great dissimilarity in size, shape and quality, though it may contain many excellent individual animals, yet there is a great want of attention evidently displayed, and a great step below perfection; for if such a flock was offered for sale, the inequality would be a great drawback in price, besides the hurtful propagation of the inherent deficiencies of the animal. Many good breeders do not seem sufficiently attentive to this point, and show they are not fully masters of the business; and such as wholly neglect the distinction are obstinately blind to their own interest, and remain ignorant of the principles of physiological improvement. The adaptation of animals, male and female, before they are put together, constitutes the most essential part of sheep-breeding, and lays the foundation of the farmer's expectations from that source of his employment.

In the process of sorting, the ewes will be brought and confined in small lots before the view of the farmer and his shepherd, where a rigid examination can be made without the attention being distracted and confused by a multitude being exposed at one time. The form and shape of the animal will be taken notice of, if the body be too long or narrow, without sufficient roundness, the head too thick or too long, the feet and bones too large, want of straightness in the back, neck and legs too long, bad handling, the wool long and picky, waxy or hempy, pelt thick or scurried, the chops being hogged, or the jaws of unusual length, the mouth not too large, the teeth sound, and the set unbroken, and the eyes and gums, and the whole appearance of the animal denoting a healthy, sound carcass, and fitted for propagation. In selecting ewe hogs for breeding, which will now at the age of eighteen months be admitted to the ram, much discrimination and judgment are

required, and such animals should be culled and sorted down in a very close manner; and in case of many deficiencies in the requisite properties, and in the want of number to choose from, it will be safer to breed from an old ewe for another year, than to admit incipient imperfections. The animals, young and old, that are now rejected, are marked with ochre, or some distinguishing mark, that the flocks may not get mixed by accident, and they are sent to the feeding divisions for the ensuing winter. In the choice of rams, the farmer will be guided by the kind of flock he would wish to have, the quality of the pasture and other keep, and by the soil and climate. Though the month of September is mentioned here as the period of general culling, the farmer who is always examining his flocks, and the shepherd who is constantly among them, can carry on the sorting process throughout the year, by taking notice and marking any animal which at any time shows a deficiency in any respect. By attending to this very simple but far more effectual mode than a general culling at one time, which, with every care and attention, is apt to be done in a hurried manner, very little will remain to be done in September, except to examine and compare again, and make the final arrangement. The ewes are then divided into lots of fifty, and sent with the ram intended to a separate field. A very bad custom has long obtained among the tup-breeders, of over-feeding them, and by that means concealing many defects, and also rendering them unfit for the purpose. A healthy fresh condition is all that is required in ewes or rams, though somewhat more condition may be allowed in the latter.

On extensive farms, where the breeding flock is large, and the divisions consequently numerous, or in fact more than one, the ewes and the ram put together, will have a similar temporary mark, and the ram will be deeply marked betwixt the fore legs, for the purpose of showing what ewes are served, and when; and the shepherd will be careful in noting down the periods of such markings throughout the six weeks, the time the rams usually remain with the ewes, and will also attend particularly if any ewes return to the ram, and thus transfer the period of their gestation from the beginning to near the end of the time allowed. For this purpose the ram should be rubbed with fresh ochre every morning, and the shepherd will impress a mark on each ewe, in order to distinguish from what week of the six the time of gestation must be reckoned, and to know thereby the week of yeanning in the spring. The ewes will be in fresh condition, and the ram being withdrawn at the end of six weeks, they will continue in a stubble or lea field, and receive during winter a daily supply of turnips, at the rate of a two-horse cart load to 100 in twenty-four hours, which will keep stock in good condition; or they will be confined to eat turnips on the ground, as convenience may direct. Larger lots will also now be formed by the size of fields and convenience of food.

The season of lambing seldom begins before March, except in very early situations, or for the purpose of procuring fat lambs. The shepherd will now begin to draw into a lot those ewes which show the mark of earliest impregnation, and remove them to the lambing ground. For this purpose every farm is, or ought to be, provided with an old grass paddock or small field, as the size of the farm may require, in which there is a shelter shed with the proper exposure, and which can be temporarily divided into different apartments as the shepherds may

require. A small flock may be removed at once to this paddock or field—but on large farms the ewes only next in order of yearning will be drawn in succession by the shepherd from the fields, as a large number would create much confusion and endanger the young lambs. In this field, or enclosure, which should be warm, dry, and well sheltered, the ewes will continue to receive turnips, cabbages, and beet, and some artificial food in case of a scarcity of these; but succulent food is always to be preferred. Where the field is large, and allows the ewes to lie thin and scattered, the shepherd will divide by a temporary hurdle fence, a corner of the field nearest to his nightly habitation, generally in or near the farm-house, in which he will put every night those ewes that he thinks will yearn before morning, and which corner he visits at short intervals during the night, and is much more convenient than wandering over the field. On large farms, the shepherds divide the labor by day and night alternately, and where only one is kept, he will be allowed occasional assistance. This temporary enclosure will be provided with a roomy shelter shed, which can be very easily and cheaply effected with hurdles and straw; or a more permanent one may be formed, according to situation and convenience.

In some observations I lately made on the rearing of young cattle, I remarked that the grass paddock or field, and the sheds, may be contrived to suit the double purpose of weaning the young calves, and for lambing the ewes,—the latter business being finished before the season will allow calves to be turned out from the pens. On farms of moderate size, an orchard may suit the purpose, but in all cases, whether it be an orchard, a paddock, or a field, it must be dry, warm, and sheltered, with a comfortable shed, the bottom of a thick grassy sward, no open ditches, or hollow places where the animals may tumble over and lie powerless on their backs. By this arrangement the shepherd has the lambing flock close under his inspection, and drawn from the field in order of lambing as indicated by the autumn marks of impregnation—a shed where he can confine separately a weak or a diseased animal, bad or unwilling sucklers, and which will also shelter nearly the whole flock from the changes and occasional inclemencies of the weather. On large farms a smaller subdivision is indispensable, wherein to confine during the night the ewes that are expected to vean, that they may be easily attended to.

As the lambs attain strength, the ewes will be removed from the lambing ground to the grass fields, and the best pastures on the farm will be allotted them, and where, if the season be backward in producing grass, corn and other artificial food will be given them until the pasture is sufficient. In other cases, they will be sent to the early rye and winter tares, which lands are hurdled off and folded upon. Castration of the males will be performed at as early an age as they can endure that severe operation, and advantage will be taken of mild genial weather to second the very successful skill now attained in that process—but if cold weather suddenly ensue, housing at night will be used. The tails are also cut at this time. When speaking of the rearing of cattle I observed that in all fields of permanent pasture, a shelter shed might be erected at very little cost which would serve both for sheep and cattle, by fronting three ways, and by having the division for sheep raised only to the height of the animal, with a single post and rail in front to prevent damage from cattle. Where timber is very plentiful plain boarding will suit for walling, and feather-edge for the roof; or straw or weeds, as

may be most convenient. I think the utility of such sheds will not be disputed by practical judges, in sheltering the animals from cold and heats; but more especially the calves and lambs when first sent to pasture and during the first year of their age. But even in fields that are used under the alternate system, there is most generally a corner to be found untouched by the plough, where a shed may stand, and even in the absence of that convenience, a temporary shelter may be erected of hurdles and straw, to which ewes and lambs will instinctively resort in rough weather, but if not, the shepherd's business is to see to it. On the attention paid to all kinds of live stock during infancy, and the first year generally, the future success of the animal depends.

(*British Farmer's Magazine.*)

[TO BE CONTINUED.]

THE JERUSALEM ARTICHOKE.

CLINTON COLLEGE, NOV. 20, 1839.

Messrs. Editors,—For the satisfaction of all who may feel an interest in the culture of Jerusalem Artichoke, I am disposed to give them, through your paper, so much of its history and mode of culture as I have learned. Having about 20 acres of this valuable product myself, I am often interrogated as to its nature, value and culture.

Its botanic name is *Helianthus Tuberosus*, and is supposed to have been originally discovered first on the borders of the Gulf of Mexico; whence it has been carried and cultivated in Europe for the table and for food for hogs. But it does not appear to be so productive in England, where it has been cultivated to advantage, as it is here. There 500 bushels to the acre is considered a large crop, but here I am satisfied that one acre of common soil, the second year after planting it, will yield at least 1000 bushels, and many acres will overgo that amount. So that its native country is best adapted to its production.

The race which I have was discovered about seven years ago, in Jackson county of this State, by Mr. Samuel Young, and from its correspondence with the description of the Jerusalem Artichoke, I unhesitatingly pronounced it the same. Before discovering the Jerusalem Artichoke, Mr. Young had cultivated for his hogs the common white variety (*Cynara Scolymus*) and finding no profit in them, had abandoned their culture. During last spring, about one-eighth of an acre of the Jerusalem Artichoke was discovered on the farm of Harris Tuggle of Wilson county, Mr. T. had seen them in his field for several years, and regarding them as noxious weeds, had tried to extirminate them without success. But when he found by comparing them with mine, that they were Artichokes, he set a different estimate on them. From the farm of Mr. Young, various persons have obtained and cultivated them as food for hogs, all of whom unite in their praise. And the accounts given of their productiveness and value in feeding hogs, are almost incredible. Yet the statements are made by men of unquestionable veracity, and the accounts

of all who have tried them correspond, so that we can hardly disbelieve. In the spring of 1838, a neighbor of mine, who is incredulous to any report which has the appearance of extravagance, having heard of the products of the Artichoke, remarked that he thought it looked like "too many squirrels up one tree." But when he came last spring to dig some for seed out of my patch, he recalled what he had formerly said, and gave it as his opinion that it was equal to its representation. The great advantage of the artichoke, is, that it contradicts the assertion, that "there is no royal road to wealth," for it will yield considerable profits almost without labor. You have to plough the ground well in January, February or March, (the earlier the better,) and immediately check off 4½ feet each way, and dropping one artichoke in each check, cover them with the plough. About the time they come up, plough them like Irish potatoes, and then again cross plough them one foot high, and you are done cultivating them forever. The first year they will make from 400 to 700 bushels per acre, and afterwards they will improve for two or three years, till they will yield about double the product of the first year. I now speak from experience. The hogs being allowed to root them all the winter, is an advantage to them, because they root up and soften the soil to a great depth, and the Artichokes will fill the soil as far down as it is pulverised. Thus they improve for several years, enough always being left by the hogs to set the ground completely. And lest some one should object, that they might freeze if planted in the winter, I remark that this Artichoke will freeze and thaw all the winter, and still be as good in the spring as if it had been in a cellar. The only way in which it may be injured, is by exposure to the air long enough to let it get dry, when it withers up to a hard stick. Hence in transporting them, we have to keep them moist, in order to preserve them.

Your hogs should not go on them until about the first of November; when the trouble of feeding is over till spring, for each hog "roots for his living."

Sows with suckling pigs should not go on them, for the Artichokes injure the qualities of the milk, so as to make the pigs dwindle. But as soon as pigs are weaned, they will do finely by rooting for their living.

Heretofore, I have given Artichokes to all who desired them, and still give to my neighbors who will dig them; but being often called on by persons at a distance, I propose to accommodate them, in a manner that will take care of number one. Wherever persons will unite and take a wagon load, I will send a load. I can deliver them at Gallatin, Nashville, Franklin, Columbia, Murfreesborough, or McMinnville, for \$2 per bushel, 5 bushels being enough to plant an acre.

I am decidedly of the opinion that this Artichoke will form a valuable accession to the husbandry of the western country; because every farmer may keep his hogs through the winter, without labor, by devoting rugged parts of his farm, or some thin woodland, to Artichokes.

FRANCIS H. GORDON.

Tennessee Agriculturist.

SALTING BUTTER.

ON some occasions, a part or a whole of the butter may, perhaps, be disposed of fresh; but in general it must be salted before it can be carried to market; and as this part of the process requires as great nicety as any other, a few remarks on the subject shall be added.

Wooden vessels are, upon the whole, most proper to be employed for containing salted butter. These should be made of cooper work, very firm, and tightly joined with strong wooden hoops. It will be advisable to make them very strong where circumstances permit them to be returned to the dairy; for as it is a matter of considerable difficulty to season new vessels so well as that they shall not affect the taste of the butter, it is always advisable to employ the old vessels rather than make new ones, as long as they continue firm and sound. Oak is the best wood for the bottom, and staves and broad Dutch split hoops are to be preferred to all others when they can be had. Iron hoops should be rejected, as the rust from them will in time sink through the wood, though it be very thick, and injure the color of the butter; one iron hoop, however, should be put at the top, and another below beyond the bottom, the projection below the bottom being made deep for this purpose. No form is more convenient than that of a barrel, unless, perhaps, it be that of a truncated cone; with the apex uppermost; as in this case the butter never can rise from the bottom and float upon the brine, which it will sometimes do in the under part of a barrel when brine is necessary. But this inconvenience may be easily obviated, by driving a wooden peg with any kind of a head, into the bottom, before it be filled, as the butter, closely embracing the head all round, will be kept perfectly firm in its place. An old vessel may be prepared for again receiving butter, by the ordinary process of scalding, rinsing, and drying; but to season a new vessel requires greater care. This is to be done by filling it frequently with scalding water, and allowing it to remain till it slowly cools. If hay or other sweet vegetables are put into it along with the water, it is sometimes thought to facilitate the process. But in all cases frequent effusions of hot water are very necessary, and a considerable time is required, before they can be rendered fit for use. The careful dairyman ought to be particular, or he may soon lose his character at market.

After the butter has been beaten up and cleared from the milk, as before directed, it is ready for being salted. Common salt is almost the only substance that has hitherto been employed for the purpose of preserving butter; but I have found by experience, that the following composition is, in many respects, preferable to it, as it not only preserves the butter more effectually from any taint or rancidity, but makes it also look better and taste sweeter, richer and more marrowy, than if the same butter had been cured with common salt alone. I have frequently made comparative trials with the same butter, and always found the difference much greater than could well be conceived. The composition is as follows: Take of sugar one part, of nitre one part and of the best Spanish great salt, or best rock salt, two parts: beat the whole into a fine powder, mix them well together, and put them by for use. Of this composition one ounce should be put to every sixteen ounces of butter.

Anderson's Essays.

ICE VAULTS IN CELLARS.

Every house-keeper, and especially every person who has a dairy, would do exceedingly well to have a small ice-house constructed in the cellar, where ice might be preserved through the summer. The benefits of such an establishment would be more than an offset to the cost, which is small. Unless a cellar, without ice to chill the atmosphere, is unusually deep and cool, most dairy women find it difficult to secure all their cream in summer before the milk begins to turn sour; and after the cream is soured and the butter brought, how difficult is it to keep the butter any length of time for family use or for the market, without its becoming rancid. All this danger and loss might be prevented by a mess of ice in the cellar, deposited the preceding winter. This would keep the atmosphere cool, preserve the milk sweet and the butter nice and hard, in which case it will always command a readier market and a higher price. Every house keeper, too, has milk and fresh meat, fish, &c. in summer, which cannot be preserved for the want of a sufficiently low temperature. If there were a small ice house in the cellar, you might keep your milk, meat, butter, &c. sweet for a long time—and surely this is a desideratum.

If you have none such, now is the time to prepare one in season for the reception of the ice next winter. All you have to do, is to select a proper place in the cellar, and dig a hole, say five or six feet square, and nearly as deep. Let this have a brick or stone wall on the exterior sides. If within this you place a board or plank wall four inches from the brick, or stone wall, the space between to be filled with tanner's bark, so much the better. Cover the bottom a few inches with the same bark, which you know is a good non-conductor of caloric or heat. In winter cut your sheets of ice to the right dimensions, and lay them in the vault. When filled to within six inches of the cellar floor, cover the top with bark, and shut down the trap door, which, of course, was made at the time as a part of the concern. In this way you lose no cellar room; you can pass over the vault as well as on any other part of the cellar, and whatever you sit upon the ice vault door will always be cool. Indeed the whole cellar will keep cold all summer. No one who keeps a dairy ought to be without so great a convenience. The cost cannot be much, and will be found good economy. As the householder wishes for a cake of ice in the course of the summer to lay upon his butter plate or to cool his drink, all he has to do is to go down cellar, open the door of his ice vault, scrape away the tanner's bark and break off the requisite quantity of ice. Our Kennebec winters generally make ice so cheap and so thick, that the cost of procuring it from a stream or pond can only equal the labor and time of going after it. Or you may make the ice at your own door; suffer a half barrel or tub filled with pure well water to freeze solid, and remove this to the cellar till the desired quantity is deposited in the vault. By this course you are sure of purer ice than that formed on the surface of rivers and ponds.

CHEMICAL NOTICES BY PROF. SHEPARD.

1. *Glen's Spring, Spartanburg Dist., S. C.* The water from this newly discovered Spring, is strongly impregnated with sulphuretted hydrogen gas (*hydrosulphuric acid*,) in consequence of which it falls within the class of those highly useful mineral springs, commonly called sulphureous. The bottle (presented me by Dr. Ramsay of Charleston,) was tested with the usual re-agents; and found to contain, in addition to the sulphuretted hydrogen, sulphate of lime, with traces of sulphate of magnesia, super-carbonate of lime and chloride of calcium (muriate of lime.) It gave no indication of the presence of any of the alkaline carbonates. Whether it abounds in carbonic acid gas, or affords nitrogen, can only be ascertained satisfactorily by an examination on the spot. From the specimen submitted, I have no doubt that the spring will prove a resort of much importance to those invalids who are usually benefitted by sulphur waters.

2. *Marl, presented by Col. Flud.* The formation, of which the present specimen is an example, is said to be abundant on all the plantations near the Eutaw Springs. Col. Flud's plantation, from which it came, is situated about six miles above the spring, on Santee River. The mass has a yellowish white color, a fine white texture, as if composed from the fragments of shells. It is soft and greasy to the feel when freshly taken from the earth, and easily crushed to powder in the hand.

It consisted (after having been dried for 24 hours at 212°) of the following ingredients:—

Carbonate of lime	- - - - -	87.2
Silica	- - - - -	11.5
Alumina and peroxide of iron	- - - - -	1.3
		<hr/> 100.0

It cannot fail of proving highly beneficial as a mineral manure. Its loose texture will probably render unnecessary the process of calcination, allowing it to be scattered over the fields in the condition in which it comes from the beds where it occurs.

3. *A dark grey, compact Marly Limestone (presented by Dr. A. W. Bethea,) from the banks of the Pedee river, in Marion District.* One hundred grains lost on calcination for two hours, in a platina crucible, 33 grs. in weight. It then slacked freely on the addition of water, into a fine, whitish hydrate of lime. This marl contains from 70 to 74 p. c. carbonate of lime, the remainder consisting of clayey matter. It will be useful to land after having been subjected to partial calcination, in order to effect its reduction to powder.

4. *A hard white Tertiary Limestone, with numerous imbedded fossils; from the plantation of Mr. Fred. A. Porcher of St. John's, Berkley.* This was presented me, together with the other substances, hereafter alluded to in this notice by the Editor.

251 grains ignited to whiteness for two hours, in a platina crucible, lost 108 grs. weight, which is equivalent to 43.03 p. c. of volatile matter. The quick-lime obtained, slacked on the addition of water, with the usual phenomena of a pure limestone. Indeed, I perceive no reason why this rock may not be employed as a source of good quick lime for the fabrication of mortar and other uses.

The specimen contains at least 96 p. c. of carbonate of lime, the remaining 4 p. c. consisting of fine sand (silica,) with traces of alumina and carbonate of magnesia.

As a mineral manure, it will need to be partially calcined by being thrown into heaps upon piles of burning wood, so arranged as to allow of a free draught of air. Having been subjected to this process, it will slack freely, and after a short exposure to the air, the lime will again become mild from the recovery of carbonic acid, while it will be left in the requisite state of pulverization, to enable it to act as a manure.

5. *A loose friable Marl, from Col. Richardson's plantation in St. Matthew's Parish.* This specimen almost exactly resembles No. 2. from Col. Flud's place on the Santee. 100 grs. lost on ignition 40 grs. and yielded on slacking, a yellowish hydrate of lime. Its composition is nearly identical with that from the Santee, falling below it in the content of carbonate of lime, about 8 per cent. A difference of composition, however, which will not diminish at all, its usefulness as a manure for light sandy soils.

6. *Compact Marl, from Mr. Wm. Thompson's plantation.* This specimen resembled an indurated clay, by its adhesion to the tongue and the argillaceous odor which it subsequently emitted. It lost but 10 p. c. on ignition for two hours. It contains from about 15 to 25 per cent of carbonate of lime. It being too tough to pulverise with the hammer, and not slacking after calcination, it will admit of a doubt, whether it can be employed to advantage as a mineral manure.

ON THE CULTURE OF THE DAHLIA.

IN our last article, we promised to give a list of some of the choicest varieties of the Dahlia; and in order that we might fully redeem our pledge, and only enumerate such as are truly worthy of being introduced and cultivated by us, we wrote to Messrs. Hovey & Co. (seedsmen of Boston,*) who from their standing, and constant importation of all the new varieties, are fully as able as any individuals in the United States (if not better) to afford the information desired. The accompanying article from them we take great pleasure in laying before our readers.

[ED. SO. CABINET.

SOME REMARKS UPON THE DAHLIA, WITH A DESCRIPTIVE LIST OF FIFTY OF THE MORE CHOICE AND DESIRABLE VARIETIES.

BY MESSRS. HOVEY & CO. SEEDMEN, BOSTON, MASS.

YOUR request, that we should furnish you with a descriptive list of some of the more recently introduced, and splendid varieties of the Dahlia, for insertion in your journal, we cheerfully comply with. Doubting not that the remarks you propose to offer, upon the history, cultivation, and general treatment of the Dahlia, will be as interesting and valuable

* Messrs. Hovey & Co. are not only seedsmen, but also dealers in Agricultural implements of all kinds, and have a choice collection of new Dahlias, Camellias, fruit-trees, &c. We commend their establishment to the notice of our friends.

as any we could offer, we leave that to you, and with a few prefatory observations we come at once to the subject which you have proposed.

The Dahlia has now arrived at such a high state of cultivation in England, and, we may also add, in this country, or at least in the vicinity of the cities of Boston, New-York, and Philadelphia, that amateurs are extremely fastidious in regard to the varieties which they admit into their collections. Depending wholly, as they have, upon the reports of the Dahlia exhibitions in English periodicals, or upon the advertisements of the celebrated growers, much disappointment has been experienced in the introduction of new seedlings. These are often set forth as containing properties so all-excelling, that notwithstanding the most extravagant prices which have been demanded for them, there has been no want of eager purchasers, even among our more zealous amateurs and cultivators of this gorgeous flower. Every season produces its fifty or one hundred new varieties, and every season finds the amateur burdened with a large collection, constantly assorting and selecting, with the hope, that from the numberless additions, a collection may be soon formed, which shall comprise the *beau ideal* of all that his extravagant fancy has imagined was wanting to perfect the flower. But that has not yet arrived: and although thousands upon thousands of new varieties have been consigned to oblivion, so nice are the distinctions which govern the amateur's taste, that from all the Dahlias which have been yet produced during a period of many years, not even the small number of *fifty* can be found, which he thinks are really deserving room in his garden, or worthy of his care. So eager are some to procure the *newest* flowers, that varieties which have not been fairly tested, are thrown aside with the vain hope of finding a much superior flower in that which takes its place.

We would not deprecate the taste for the newest objects, nor would we say ought to dampen the zeal of the most ardent admirer and cultivator of the Dahlia, a flower so truly splendid: but we would advise, that there should not be so much haste in adding new varieties and discarding old ones. Is it not better to fully test those we possess, and have procured at a high price, two or three seasons, than to throw them one side, or neglect their growth, to make room for those of the most recent date? We certainly think so. Our expectations would not then be so highly wrought up, and we should bear disappointment without so much of that ill-feeling which is generally the accompaniment. When it is acknowledged that the chances of producing a superior flower, in the present highly cultivated state of the Dahlia, are as *one to five thousand*, it is not best to give up at once good flowers,—to grasp at those which have only the merit of variety to recommend them. So great has been the desire with some amateurs to possess all the *high priced* flowers, that the first question asked, when a stand of blooms is exhibited, is, whether such and such new and costly varieties are in it, without any reference to their beauty, as if the price alone at which a Dahlia may sell for, is of more consequence than its merits as a first rate bloom.

But we are straying away somewhat from our subject, and are occupying space which you can probably fill to the greater gratification and instruction of a majority of your readers, than with a discussion upon faults and errors of the Dahlia fancier, particularly so as our remarks are not, probably, so well fitted to the latitude of Charleston as

to the cities which we have before named. But we have thought, that in relating the causes which had a tendency to check the spread of a correct taste for the Dahlia, your amateurs might avoid similar errors and arrive sooner at greater results.

Very few American seedling Dahlias of any merit have yet been produced—not, in all, above a dozen; but we hope that sooner or later our cultivators will rely more upon those of our own growth and less upon those of foreign production.

That the Dahlia can be produced from seed in this country, equally as fine as they have been in England, no one will doubt; and the only obstacle in the way of this, is the want of demand sufficient to induce cultivators to make more frequent attempts to do so. There is so much in the culture of the Dahlia, depending on climate and soil, that we have been surprised to find foreign kinds do as well as they have done. Such American seedlings as we have cultivated appear to be of a more free flowering habit, and the blooms are produced with more certainty. They all seem to withstand our hot sun much better than most of the English varieties. So many complaints have arisen in regard to the uncertain blooming of the latter, that it seems necessary that we should look to our own gardens for the growth of those which are eventually to demand our care and attention. We would advise every admirer of the Dahlia, who has leisure and spare room, to cultivate a bed of seedlings every year: and by judicious impregnation of the flowers, we have no hesitation in saying, that his labours will result in adding some new and beautiful flowers to our collections.

In selecting a collection of Dahlias, many things are to be taken into view. When the object is solely to compete at horticultural exhibitions, what are denominated show flowers should be mostly chosen; but on the other hand, if they are to be selected for their beauty as ornaments of the flower border, some which are held in but little esteem as "show flowers," afford the most gratification by the constant and abundant display of bloomers. It is a judicious method to select part of each, and in making up our description we shall designate which are the most suitable for the two purposes. Presuming, therefore, that these remarks have already been extended too far, we offer the following list:

	HEIGHT OF THE PLANT.
Beauty of Bedford: <i>beautiful shaded or clouded purple; tolerable free bloomer,—not valuable as a show-flower, but desirable from its fine colors,</i>	5—6
Beauty of Kingscote: <i>white deeply edged with crimson; a very free bloomer and desirable garden variety,</i>	3—4
Beauty (Bromes): <i>a handsome lilac flower; often very fine,</i>	5—0
Bride of Abydos: <i>a splendid white, though not always to be depended upon, as it is occasionally spotted; but it should be cultivated,</i>	5—6
Blandina: <i>fine white cupped petals, and good show-flower,</i>	5—6
Culliope: <i>a fine scarlet; a show-flower with cupped petals,</i>	5—0

	HEIGHT OF THE PLANT.
Cambridge Hero: a large dark maroon flower with cupped petals, and has won many prizes as a show-flower,	7—8
Contender (Mackenzie's): scarlet; a pretty garden variety with quilled flowers,	3—4
Countess of Mansfield: the finest white we have ever seen; esteemed as a show-flower,	4—5
Conductor: a splendid purple with cupped petals, and a fine show-flower,	3—4
Conqueror of Europe: white shaded with pink; beautiful cupped petals and fine show-flower; a profuse bloomer,	4—5
Countess of Liverpool: splendid scarlet; an old variety but richly deserving cultivation in every collection,	6—7
Douglas' Glory: scarlet; a free bloomer, good habit and a desirable variety,	5—6
Duke of Wellington: fine orange; a handsome variety, with cupped petals; a show-flower,	5—0
Eva: blush white, with cupped petals, and a beautiful show-flower,	3—4
Grand Purple: fine purple, good habit, cupped petals, and handsome flower,	4—5
Golden Sovereign: beautiful deep yellow; a showy and brilliant flower,	6—0
Hero of Tippecanoe: beautiful dark purple, cupped petals and fine show-flower. This is an American seedling,	4—5
Hope: elegant rose, cupped petals, fine habit and splendid show-flower,	4—5
Jackson's Rival: bright yellow; a free bloomer and handsome flower,	5—6
Lady Sondes: Primrose, yellow edged, with rose cupped petals, and fine show-flower,	5—6
Lady Dartmouth: white, edged with lilac, cupped petals and handsome but a rather uncertain bloomer; should be cultivated,	5—6
Lady Wm. Poulett: bright lilac cupped petals, beautiful habit, and elegant show-flower,	4—5
Lavinia: white, edged with lilac; a free bloomer and fine flower,	4—5
Marquis of Lothian: deep rosy crimson; cupped petals and fine show-flower,	4—5
Marshal Soult: lilac shaded with red; elegant cupped petals and superb show-flower,	5—0
Mrs. Rushton: white edged with deep rose; reflexed petals, very full and double, and splendid flower; an American seedling of free growth, and a profuse bloomer,	6—0
Mary (Dodds): white tipped with rose; cupped petals and fine show-flower,	4—5
Middlesex Rival: dark purple; cupped petals and very rich show-flower,	4—5

	HEIGHT OF THE PLANT,
Nimrod: <i>scarlet crimson; very full flower,</i>	5—6
Perfection (Hedley's): <i>dark maroon, cupped petals and first rate show-flower,</i>	4—5
President (Nillmer's): <i>rich dark purple; cupped petals and superb show-flower,</i>	5—6
Princess Victoria: <i>white edged with purple; cupped petals, full and most beautiful flower,</i>	4—5
Purple Perfection (Elphinstones): <i>rich purple cupped petals and fine show-flower,</i>	5—6
Queen Victoria (Fowlers): <i>blush, shaded with purple; cupped petals, good habit and fine show-flower,</i>	6—7
Quilled Perfection: <i>shaded purple, cupped petals has gained many prizes and considered a good show-flower,</i>	4—5
Rival Sussex: <i>beautiful maroon, cupped petals, and splendid show-flower,</i>	5—6
Rozetta: <i>deep rose, cupped petals, fine show-flower,</i>	4—5
Reliance: <i>bright orange shaded with buff; a novel and superb flower, which should be in every collection,</i>	4—5
Rienzi: <i>splendid crimson, shaded with dark puce, cupped petals, and fine show-flower,</i>	3—4
Red Rover: <i>bright red; free bloomer, good habit, and excellent flower,</i>	6—0
Royal Standard: <i>rich rosy purple, cupped petals, and fine show-flower,</i>	5—0
Ruby: <i>splendid ruby color; cupped petals, good habit, and excellent show-flower,</i>	4—5
Sarah: <i>fine buff, full flower, and superb variety,</i>	4—5
Splendissima: <i>bright purple, cupped petals, and elegant show-flower.</i>	
Striata Formosissima: <i>as STRIPED as a carnation and exceedingly novel and splendid; the ground color white, striped with rich velvety crimson; cupped petals and superb show-flower,</i>	4—5
Sir Henry Fletcher: <i>rosy crimson, cupped petals, and one of the handsomest show-flowers,</i>	5—6
Springfield Major: <i>crimson, cupped petals, and very fine flower,</i>	5—6
Suffolk Hero: <i>rich dark maroon, cupped petals, elegant habit, always good, and splendid show-flower,</i>	5—0
Sulphurea Elegans: <i>fine sulphur yellow, free bloomer, and fine flower,</i>	5—6
Topaz: <i>fine golden yellow, cupped petals, and splendid flower,</i>	4—5
Unique (Amsell's): <i>yellow tipped with red; a fine flower, very full and globular, with cupped petals; fine show-flower,</i>	3—4
Victory (Knight's): <i>rich crimson, cupped petals, and splendid flower,</i>	3—4

	HEIGHT OF THE PLANT.
Yellow Perfection (Stone's): <i>one of the finest yellows, with cupped petals; very certain, and a beautiful show-flower,</i>	4—5
Zolermio: <i>deep yellow, cupped petals, and good show flower,</i>	3—4

To this list may be added many fine varieties, both new and old; but the above embrace those which have proved to be of great beauty, and which will afford a splendid display of all the various colors. Some of them cannot be surpassed. Those who wish to cultivate a greater variety, are referred to our *Catalogue*, which contains upwards of 200 varieties; to it we are constantly adding new ones, and discarding the most inferior: thus keeping our collection within that number.

We suspect that not many of the more choice kinds have yet found their way into the collections at the South; but we hope your efforts in your new avocation, to diffuse information upon their propagation, cultivation, &c. will be the means of inducing your amateurs to become greater growers and fanciers of this flower, and to add to their gardens all the best varieties. If what we have now offered will aid in effecting this object, we shall feel amply compensated for what little we have added to your pages.

Yours, respectfully,

Boston, February, 1840.

HOVEY & Co.

DWARF FRUIT TREES.

In some places, especially in France, a method prevails of cultivating dwarf fruit trees. These are said by English and French writers, to have many advantages. The trees are not as much exposed to high winds, they produce better fruit, bear earlier, and more abundantly.

Dwarf trees are produced by inoculating on stocks of comparatively slow growth. Thus by inoculating the apple on the Paradise or *Doucin* stock, the peach on a slow growing plum stock, and the pear on the quince stock, &c. This is practised here, more particularly, in gardens where the trees are set along, the borders alternating with gooseberries or currant bushes.

The pruning and management of dwarf apples and pear trees, are well described in the following remarks:

The first subjects of the following remarks, from their appearance, were planted six or seven years previously to the commencement of any pruning being given them. In consequence they required to be very much thinned out, so as to get the branches clear of each other. For thinning I always bore in mind to cut the old wood off close to the stem or branch it was attached to; this prevented young wood springing afterwards. When the trees were thinned of the old shoots, as above stated, the young side shoots were what is generally termed spurred in; that is, they were so shortened, that only two or three buds were left on them, and the leading top shoots were shortened to half their length.

The following and every succeeding year, the trees were treated in the same manner, as respects the young wood, till they had acquired the desired height, when the leading shoots were shortened, as the side shoots or spurs had been previously. When the leading shoots show an indication to grow very luxuriantly, which is apt to be the case under this treatment, they should be prevented doing so, by cutting off part of

the old wood, along with the young shoots immediately above a flower bud. This will prevent the shoot so cut from increasing in length. The spurs must be treated in a similar manner, by cutting off a small portion of the old wood along with the young, when they are getting too long.

I have never found the above treatment prevent the fruit swelling, or in any way detrimental to it; but on the contrary, it was always improved.

Young trees are to be treated in the following manner; if there are more than three shoots on the plant, reduce them to the number, and shorten each to three, four, and six eyes, according to their strength. The following season reduce the number of leading shoots to six, and shorten them to three-fourths of their length, and spur in the remaining shoots. The tree should be managed in every respect in this manner until it has attained the required size, which of course depends on the convenience or fancy of the owner, or conductor of the garden.

I make a point of letting the trees take their natural form of growth as far as the system described will permit; for I consider it of little consequence what shape is given to the tree, provided my end is attained; that is, to make every branch as it were a long spur, with bearing buds from the base to the extremity.

Two or three years' trial of this method only, might possibly deter many from a continuance of it, in consequence of the quantity of young wood which will be produced yearly at first, and from the apparent difficulty of getting rid of the superfluity. But that inconvenience will be ultimately surmounted if the foregoing instructions are attended to, and the continuance will be the possession of both healthy and fruitful trees. To attempt to bring very old trees into this method of management would be attended with difficulty, unless they were cut down short and allowed to make new heads, which I should recommend where their produce can be spared for a time. In a few years fine healthy heads would be formed, which will yield fruit superior to any that could be expected from them if left in their rude state. But if the tree cannot be spared to be headed down, they may be very much improved by thinning out the spray, and cutting out a few old branches, which will cause them to throw out young shoots, and these in a short time, will become bearing wood. The remainder of the old branches may then be thinned out with effect. Even if this process is only performed once in two or three years, and the stems and branches well cleared of moss and dead bark, it will be of great service to the trees, and be a means of keeping them free from insects, and giving them a neat and clean appearance.

[*Practical Farmer.*]

For the Southern Cabinet.

REMEDY FOR WORMS IN PEACH AND OTHER FRUIT TREES.

Expose the tops of the roots to the distance of a foot or eighteen inches all around the tree, by removing the earth carefully, and fill up the space with Pride of India berries and cover them loosely over with dry earth. The rain, dew, or any other moisture carried to the roots through this "bed of berries" will effectually destroy any kind of worm by which the tree is troubled. The same treatment will doubtless prove efficacious in protecting the roots of the artichoke and other plants of the vegetable garden.

W. H. W.

TALES, SKETCHES, &C.

For the Southern Cabinet.

HOBKIRK HILL.

A REMINISCENCE OF THE REVOLUTION.

FROM present appearances, the traveller would scarcely suppose that the Sandridge, near Camden, was once the scene of a very sanguinary engagement. As furnishing summer retreats from the heat, if not the sickness of the town, the Sand Hills around it are of inestimable value; and have received that degree of improvement which the health and comfort of residents demand. On the very spot called Hobkirk Hill, which was occupied by the Continental Army under Gen. Greene, very elegant mansions have been erected by wealthy planters; among whom are the descendants of that General Cantey, who very materially contributed to the success of a military stratagem, not less singular in its design than successful in its execution. Although unnoticed in the history of the Revolution, the circumstances of the adventure are well attested, and are certainly worthy of mention. Col. Washington being in command of Lee's Legion, was informed that a strong body of Lord Rawdon's force was quartered in the neighbourhood at Rugely's Mills, where they were defended by a block-house containing arms, provisions and other munitions of war. Having no personal knowledge of the country, and distrusting the fidelity of ordinary guides, he was at a loss to know how to find out the spot without exposing his handful of men; or when there, in what manner to take the garrison without artillery. In this dilemma, Mr. Cantey, who was then a very young man, and also a prisoner on parole, offered his services as a conductor. He knew full well, that, if taken in the enterprise, death would be the inevitable consequence; or, if suspected in aiding, or abetting his countrymen, ignominiously called Rebels, that a disastrous and tedious imprisonment awaited him. However, putting his life in his hands, and every thing at stake, for the good of his country and her righteous cause, he sallied forth with the gallant little band of patriots, which he led by a circuitous route through the pine lands directly upon the block-house. Col. W. immediately sent a flag of truce, demanding the surrender of the Post; and stating his conditions, which were, that the troops should lay down their arms, and evacuate the block-house within five minutes, or he would blow it to atoms. Being assured that the Colonel, whose name began to be very formidable, commanded in person, the enemy demanded if he had cannon. Pointing to a log of wood, which lay at the edge of the swamp, and, at that distance, looked, for all the world, like a field-piece ready prepared for action, the spokesman bade them look and judge for themselves. Not for a moment suspecting a *ruse de guerre*, they accepted the proffered terms; laid down their arms, and were made pri-

soners of war—by six men! Rumor states the number of the captured to be upwards of fifty, rank and file! but of the precise amount either of men, or of spoils, I am not sure. One thing is certain, that the *haul* was not less complete than seasonable: and the American troops gladly availed themselves of the easily acquired capture. Mr. Cantey loitered in the bushes long enough to witness the entire success of the stratagem: and with one of those hearty laughs, which did his soul good, put spurs to his horse and rode home.

The incidents of this adventure and other tales of those stirring times, in which he was personally engaged, formed the frequent topics of discourse to interest the social circle gathered around his hospitable fire-side in the evening of life. Full of years and honors, the kind hearted old patriot went down to his rest: and (what is the good fortune of but few) bequeathed his name and fortune to men of equal honor, patriotism and chivalry. But, as I was about to say, the lateral descendants of that hero inhabit the very spot where Gen. Greene encamped on the memorable August of 1781.

By a singular combination of movements, the British and American armies had retrograded in concentric lines; and were tending towards the eventful point at Yorktown. After Gates' shameful retreat at Gumswamp, South-Carolina, with truth, might have been considered subdued. The partisan leaders, Sumter, and Marion, were scarcely enabled to keep up the show of resistance with their marauding parties; whilst the real strength and fortune of war were to be tested in a direction somewhere more northerly.

At that period Lord Cornwallis, and subsequently Lord Rawdon, held their head quarters at the elegant mansion still standing at the south-east extreme of Camden, and that building is the most prominent object seen by the traveller entering the town in that direction. Tarleton's horse scoured the country. Tories were numerous, daring, and sanguinary. The whigs were prisoners on parole, or were unable to render any effectual service. Despair seized upon the State, and paralysed its energies. In this melancholy posture of affairs, Gen. Greene made a bold and masterly effort to surprise the town of Camden. Crossing the Wateree, at Chesnut's ferry, he by forced marches advanced, and took position on Hobkirk Hill about noon of August 27th. His movements, however, were not so secret as he supposed them to be. Two deserters from the American camp gave the British timely information, and the designed surprise was attempted, to be defeated by a similar counter-movement. Upon strict examination, the deserters testified that the Americans possessed no cannon, and claiming for his regulars decided superiority in the use of the bayonet, Lord Rawdon supposed that artillery would only prove an incumbrance to the light armed expedition which he projected. Martial Law was proclaimed in the town; and the citizens were forbidden to move out of their dwellings on pain of being instantly shot. Preparations were forthwith made for the engagement. About day-light of the ensuing morning the British were in motion. Worming their way through the dense swamp on which M'Ra's mill now stands, their aim was to sweep the north of the sand-hill where Gen. Greene was posted, and begin the attack upon his exposed flank. Strange enough too, for so wary and practised a tactician, he was entirely unprepared for the issue. As soon as he had halted his army, and within the immediate vicinity of an enemy commanded by the ablest officers of the age, he suffered the troops

without sufficient precautionary measures, to recruit after their long and wearisome march. Some of the men went to cooking, some to washing, some to sleep. Discipline was relaxed. All was confusion. In the midst of the disorder the fire of the out-post was heard; then the artillery opened: and then the videttes of the British army appeared through the tall pines, advancing under double quick time. On the discharge of the first cannon Lord Rawdon ordered the deserters to be hung. Those unfortunate wretches were immediately seized, and swung up to the first sapling. As far as they knew, their information, with respect to the American force and arms, was certainly correct. But innocent of the intent to deceive and betray their new allies, they justly met the fate of traitors and parricides. By a strange juxtaposition of circumstances, Capt. Smith, of the Maryland artillery, had just that moment arrived at Hobkirk with two field pieces, and the horses had not been unharnessed. In the critical juncture Gen. Greene rode up at speed, and cried out at the top of his voice, "Smith, the salvation of the army depends on those pieces. Fight them at all hazards: fight them as long as you are able." "I will do my duty!" was the gallant reply.

Perceiving at once the disorder and confusion of the American lines, the British cavalry charged, but were instantly repelled by the artillery, which kept up a constant and fatal discharge of round and grape, until the army was put into something like order of battle. In obedience to orders Smith did all that was possible to maintain his post. Overwhelmed by numbers, and all of his men killed around him, with his own hand he loaded and fired his piece until compelled to give ground. It so happened that in his retreat he fell under a clump of haw-shrubs, by the slight protection of which, he was enabled to parry the sabre-blows of some German dragoons who surrounded him and seemed determined to put him to death. A British officer, struck with admiration at this instance of signal valor in a vanquished enemy, and anxious to spare his life, rode up, and offering protection, received the prisoner's sword. Meanwhile the battle raged with terrible fury. Companies were formed and wheeled into line. The firing commenced by platoons, and then assumed the loose but rapid discharge of separate action. A scene of carnage ensued which was awful beyond description. Hundreds of dead covered the hill. Wounded and terrified horses without riders fled in all directions. And even above the roar of fire arms and shout of combatants, the groans of the wounded and dying could be distinctly heard. It was remarkable that the British infantry were accustomed to charge with the firelock resting upon the hip, which naturally threw up the muzzles of the gun, and the shot was lost in the air. Whereas the Continentalists being expert marksmen from early youth, took deliberate aim, and did fatal execution.

Unable to carry the field at the point of the bayonet, Lord Rawdon after the bloody encounter of three hours, thought it expedient to sound the retreat; and unmolested, made good his way to Camden. After having performed the rites of sepulture over the slain, General Greene withdrew, that evening, from the neighborhood of an enemy so sleepless and dangerous. Both parties claimed the victory. But, in truth, to use a solecism in language, both were defeated, both were surprised, and both suffered severely. It was at best a drawn battle, which but for the timely and efficient aid of the gallant Smith, would in all probability have terminated differently.

A remarkable adventure is told of this patriot. When taken prisoner at Hobkirk Hill, he was removed to Charleston, and there offered his parole, which he refused to accept. Whatever was the sad and disheartening appearance of things at the South, he was sanguine enough to think that he might still be enabled to do good service to his bleeding country. And he was not far wrong in his anticipations. At the house of his confinement there happened one day to be a bevy of British officers. The natural subjects of conversation were the events of the war, and particularly of the then late action at Camden. One of those persons spoke very contemptuously of the American military science, and prowess. Smith retorted. Abusive personal insult followed, which called forth the reply, "It is well for you, Sir, that my situation as prisoner prevents the immediate chastisement of your ungentlemanly and unprovoked conduct. The time will come when I shall compel you to eat your words: or, at least, hold you responsible for the insults heaped upon my countrymen and myself." The opportunity alluded to, occurred sooner than either of them anticipated. On an exchange of prisoners, Smith returned to the Southern army, which rallied at Guilford Court House, (N. C.) The British officer, of whom we have spoken, was also there in command of a company. It is well known that the action which then ensued was more of a skirmish, or pell-mell engagement, than a regular battle. Rank to rank and hand to hand was the order of the day. Bayonets crossed, and man struggled against man, as if the result of the combat depended upon personal effort and daring. Amidst the smoke, carnage, and din of war, the two Captains perceived and recognised each other. Rushing on to the fight, as two chafed lions, the British swordsman made a lunge with his cut and thrust, which no doubt would have carried death at its point: but striking his foot accidentally he stumbled and fell upon his knee. The posture brought the Briton's neck directly under the sabre of Smith, who at one blow severed the head of his opponent from its body, and thereby fulfilled the threat of vengeance so prophetically uttered.

It is time to wind up this yarn. But let me say, that reminiscences of the engagement on Hobkirk hill are still abundant. The old pine trees which have escaped the axe and time, bear the evidences of gun-shot wounds. Musket-balls flattened and mutilated as if by the percussion of bone or other hard substance, and somewhat corroded are frequently picked up on the field of battle. On the east side of the road separating the hill, there is a spot of ground marked out as the pit into which the dead, after the action were hastily consigned. It is a remarkable fact, that the surface of this pit is covered with a luxuriant crop of lupens, whilst all around it is devoid of herbage, evidently showing the fertilizing nature of the human dust and ashes, even after so long a period of inhumation. "Alas! to what vile uses may we come, Horatio!" Nearly sixty years have elapsed since the dreadful engagement took place. The honors of war have been substituted by the peaceful arts and pursuits of life. An entire change of scene has occurred. And there, choristers of the forest chant the only requiem bestowed upon the unhonored and nameless dead. But what does it signify? Those brave men are left alone in their glory. And it is the profitable occupation of pensive thought to recall their services and sacrifices, as sources of gratitude for the blessings thus secured to us in the inheritance of civil and religious freedom.

VIATOR.

BLANCHE ROSE.

A LOVE STORY OF THE TWELFTH CENTURY.

[CONCLUDED.]

It was the vigil of the cross; the night was dark and still upon Toulouse. The quiet streets were silent and empty, and all lights had gone out, except here and there a red solitary candle shed its long still pencelle upon the waters of the Garonne. The black pile of the vast chateau rose like a giant over the dim town, and within the wide courts were silent and deserted, and all dark and quiet except the stamp of a horse that waited beside the postern, and one still solitary watch-light that shone in an upper turret. About that light was gathered all the interest of Toulouse, and perhaps an eye, born upon the gifted night, might have seen the dim spirits leaning together over the turret, speaking the destinies of him, the last of his race, who should inhabit those towers, and who now stood within that dim still room.

It was a small, dark turret chamber, hung with coarse arras, and meanly garnished with such furniture as might become the use of a simple esquire, or frugal steward,—a low pallet, half concealed by a curtain of blue sey, filled a small recess beyond the hearth, and at its head stood a long white wand and a walking sword in a scabbard of green velvet. A black carved armoire and oak chest occupied the opposite corners, and the remaining space was no more than sufficient for a tall, high-backed chair of black leather, and a wide olive-wood table, on which a number of papers, an almoniere, an aunlace, and a heap of loose gold lay by a wax taper that burned under the rood suspended against the wall.

Earl Raymond stood before the light in his travelling-cloak, and his gray seneschal sat in the chair, his embossed hands rested upon his knees, and his white bald brow lifted to the face of his master.

"You know her not," said the earl: "I, who was nursed on the same breast, rocked by the same hand, have grown with her like the twin bud upon the stalk—I know her—and God knows her, the bright noble ladye of the world;—I loved her, I will not say *how* I loved her; she was very lovely to me—but I was only as a brother to her, how could I be more, and the glorious beautiful flower of all chivalry sworn to her service. Alas! that he had been true as I was, and I would have been a brother to him, as she was a sister to me! and since I am the last of my race, they should have had fair Toulouse and my broad earldom; and I would have been the soldier of the cross, and prayed that they might have been happy."

"God be praised, that has given you to be happy with her yourself," said the seneschal.

Raymond looked upon him as the spirits may look on the man that cannot read the secret thoughts of the world above.

"To-night," said he, "I go to the *Holy Land*."

"*Blessed Saints!* and leave your lady?" exclaimed the seneschal.

The earl's cheek became white as his tabard, but his voice did not change: "Be you very true and gentle to her, as you have ever been to me," said he: "and serve her as if you were born in her father's house, as you were born in mine; and she shall still be your lady, and her lonely orphan shall be your earl, when I shall come no more."

"Alas! alas! what is this?" said the old man.

The earl stood a moment upon his sword—"You have been young that now are old," said he, "you shall know that a maiden's love is like the sunshine and the sweet moon-light; it must shine in its own summer and its own still hour, and cannot come through the cloud when you shall call it. I will never be the cloud to her face, nor a chain upon the heart, which I bound to me for its redeeming; but she shall be bright and free to shine like the sun upon the flower,—and God send a flower to blossom in her light, and be sweet and bright and grateful to her as the rose to the morning, when I am—where the sun shall never shine again."

"And you will not come back!" said the old man.

Raymond laid his hand upon the cross—"Never!"

The old man fell on his knees, and bent his white head upon his master's hand, and wept like a child.

For a long time the count held his trembling hand, and turned away his face, at last, "Aymer!" said he, "God reward your true and faithful service to me; I have done with this world; I was a solitary tree, without a parent, a brother, a sister, to fill my heart—the last of my race. *She* was a very bright flower to me, the rose to my bower, the sun to my glory, the lamp to my holy shrine; I am going—to die before the cross as your father and mine; and we shall meet together with them before His glorious throne."

The old man's sobs redoubled, and for a long while he knelt and wept, and the earl said no more. At length his sobs subsided, the stamp of the horse came from the gate; the earl lifted him in silence; for some moments he wrote upon the papers, and set his seal; and the old man told the gold and put it in his purse. The knight took off his hat, and kissed his furrowed cheek, and laid his hand upon his head, and for one moment grasped his hands, and looked upon the cross and turned suddenly to the door. The old man tottered after with the light; but Raymond put him back with his averted hand, and threw the cloak about him, and hurried down the stair. The groom started up in his seat and threw the bridle on the Arab, and Raymond leaped into the saddle; the boy touched his bonnet and said some word, but the earl gave no answer, and spurring through the gate, took the street towards the east port.

There is a blank in the chronicle of Toulouse; who could tell how Earl Raymond turned his back upon his people—the tower where he was born, the roof where he was nursed, the field where he had plucked the flower, and chased the linnet, the garden where the rose of his love had blown—that rose that was blighted, and faded, and never should bloom again—to him!

The monk did not write of it in his book, nor the troubadour sing of it in his song; they said only, "*Raymond de Toulouse shaped the cross on his sleeve and went to Holy Land.*"

It was the third evening after the earl and his company arrived at Acre. The men-at-arms were busily disembarking their horses to go forward for Jerusalem, and the knight sat upon a stone by the beach, looking upon the bright water and the sun that was going down, red and still, and far away on France.

While he yet gazed, a slender boy, in the dress of a page, came down the sand; he stopped and hesitated, and looked towards the knight as

he approached, but at last he came to his side. Sir Raymond did not look up, and the boy stood and held his bonnet and twisted the feather, and the colour went and came in his face, "*Sir Earl!*" said he, at last.

Raymond started as if one had struck him on the cheek, and at the sight of his face leaped from the stone and turned as white as clay. It was a moment before his look came back.

"What would you, fair child?" said he, gently. The tears came into the eyes of the timid boy. "Sir!" said he, "I am an orphan child. My lord, that was very kind to me, is dead; I would serve you, if it please you."

The earl's breast rose, and he turned away, and looked upon the sea: at last, "From what country—what is your name?" said he.

"*Albert de la feuille morte*," replied the boy: "my father was of Provence," and his breath fluttered as if the memory of his father and his land rose in his heart.

"And have you no friends?" said Sir Raymond.

"I had—one," replied the child.

"And where is he?" asked the knight.

The boy turned away, and sat down upon the grass, and leaned his head upon a stone.

The earl took his dark hand, and the tears came to his eyes as he looked upon the slender fingers: "Alas!" said he "this was never meant to burnish a helm, and hold a black stirrup!"

"I will be very proud to hold the stirrup of a KNIGHT OF JESU CHRIST," said the child.

The earl stood still for a moment, and held his hand with a grasp, from which a mailed wrist might have shrunk, but the boy did not shrink nor tremble.

"God save you, gentle child!" said the earl, at last, "if you will be pleased to serve me; I will be, not a master, but a brother to you, while I am in this world: and when I am gone, God will be a father."

The page fell upon his knee, and kissed his hand, and the tears trickled fast to the stone, which was wet as the dew where his cheek had laid. The earl did not speak, but raised him gently, and turned towards the town. As they went, he spoke him softly, and glanced to his dark beautiful features and faded habit; he looked yet scarce sixteen years, and wore the simple hose and green kirtle, such as was usually the dress of pages in the south of France: but except for this, and his accent, his complexion was so dark, and his short curling hair so raven black, none had believed that he had ever known another country than Greece or Syria. The earl discoursed him as they went, and wondered at his *gentillesse* and learning; and when he came to his inn, bestowed him in the especial charge of his old minstrel.

"Here is a flower that I do not think to find in this desert world," said he: "I pray you be very gentle to him."

The old man was himself a Provencal, and he laid his pillow in the alcove, and set his meat as if he had been his own son, and took his harp and played to him till he wept himself asleep like a stilled infant. "Certainly," said he, when the earl asked about him the next day, "never such a gentle child served among stern war men!"

And in a little time, "*Le page noir*" was the *mignon* of all the court." Unless at his service, however, he was always sad and alone, and never spoke of his native land and former days; and if the rude men urged

him, he turned away, and the tears came to his eyes, and he would go to the wall or the rampart, though the sun was never so hot, or the wind never so wild.

At length, upon the morrow of St. Turiel, the earl and all the knights in Acre set out for Jerusalem, on sudden news that the great assault should be given in six days. Through all that long and terrible march Albert rode beside the stirrup of Sir Raymond, and when the Syrian sun burned at noon, and the "dead wind" blew at night, he never eat till he had eaten, nor drank till he had drunk, and served him at his board, and watched by him when he slept. When the heart of many a knight sunk in his hauberk, and the eye of the night-guard closed under his helmet, Albert sat beside him, and fanned away the fly from his cheek, and the mouse from his pillow, and looked upon his face; and when his lips shrunk, and his brow came dark, dropped his beads, and raised his cross, and said—"God give thee rest!"

It was the night before the assault. The camp was still and quiet, and no sound came through the tents but the fitful stamp of a horse at the picket, or the distant clank of a hammer at the forge, where some man-at-arms still waited his armour for the morning. The stars shone bright upon the dark field, and at times the watch might hear the night-call upon Jerusalem; and, as he walked before the tent, the whisper of shrift and absolution, where the knights made a *clean breast* for the "battle of God," and the rest in which so many should sleep when the night should come again.

Earl Raymond lay asleep in his tent, his banner by his side, and his sword at his head, where he had knelt before it when the sun went down. Albert sat by his shoulder, his pale brow fixed upon his face, and his still fingers rested on his crucifix. You could not see the breath come and go upon his lips.

The broad hand of the knight lay unbent upon the pillow, and his pale face calm, and his dark brow clear and smooth as a sleeping child. Albert had never before seen the deep frown relax from his front in all the nights that he had looked upon it. For a moment he glanced up, and a flush came to his cheek, and a light to his eyes; but all tears were gone, and they looked full and still as the calm stars that were above him. For an instant his lips moved, and he gazed upward; but again his eyes returned to the pallet, and his features to their watch.

All night he sat, and by degrees every sound died away; the horse was still at his picket, and the sentinel at his post, and for a short while there was a deep death stillness, and all was hushed in heaven and on the earth. It was the dead hour—the turning of the tide—when the soul passes, and the spirits in the grave are loosed—slowly a faint sweet strain of music came by on the silence, and voices sung in the air—

Blessed is the heart when the sin stain has gone;
Blessed is the brow His light shines upon.

And ever a still light shone upon the brow of Albert, while he sat fixed and quiet as if he heard no sound, and felt no light; and, whether it was the monks that sung in the valley, and the moon that looked into the tent—but never song was so sweet on earth, and never light shone so fair upon a mortal brow.

At length a faint stir began to come from the field, and at intervals the jingle of bridles, the stamp of hoofs, the baying of a hound, and a

sudden foot passing quickly by the tent. In a short while the far cry of the mollahs could be heard upon the towers, and the pale gray dawn stole dimly through the curtain of the tent. Albert sat, and fixed his eyes upon the light, as now a horse, and now a man came by, and now could be distinguished the tread of heavy feet pouring through the sand. Suddenly a trumpet sounded at a distance, and the page started up, and laid his hand upon the breast of the earl. Raymond awoke.

"The first trumpet has sounded," said the page.

The knight rose hastily, and put on his helmet and hauberk. Albert laced his casque, and buckled the spur to his heels, and the broad belt to his side; and the earl knelt down before his sword, and dropped his beads, and looked upon the cross with a look that made Albert's cheek come pale. In a few moments he rose and grasped the page's hand, and laid his broad mailed glove upon his head, and sat down to the little table beside the pallet. Albert served his frugal meal, and took his trencher to sit by the door; but the earl made him sit beside him at the same dish.

"It is the last that I may eat," said he. "There will be no *salt* between me and thee where we shall meet again."

Albert bent his head over the board, and said no word; but the large round tear fell on his plate.

The short meal passed in silence, and the haste of those who every moment expect to hear the trumpet sound to arms. As soon as it was ended, the earl rose up and crossed himself, and gave his hand to the page, and drank the grace-cup; and when Albert had pledged him, he went to his mails, and took out a heavy purse, and loosed from his neck a little white cross.

"Dear and faithful child," said he, "God be gracious to you, and give you peace." He put the purse in his hand—"When thou and I shall part, return to thy country, and if thou hast none better—to mine, where thou shalt find a very gentle mistress, who will be to thee all that I would be."

Albert took the purse, and looked calm in his face, and bowed his head, and said him—"Yes."

The earl looked on him for a moment, and his eyes did not change. "Brave and constant child," he said, "God shall not forsake thee; and now—for none may know His will to-day—take this little cross that must not fall among His enemies. If He gives us the victory, thou shalt bury it with me in this holy earth; but if in the great press, or the day shall go against us, and I may not be found, take it with thee, give it to my lady, from whom I had it, and say, 'Raymond of Toulouse is gone to his rest.'"

Albert had not changed before; but at the sight of that cross, and the sound of those words, his colour went out of his face, and the hand that he held out fell to his side, and he sank down at the feet of the earl. Raymond lifted him to the pallet, and snatched the cruce, and hastened to lose his collar. The hand of the page closed upon his arm, and he opened his eyes, and sat upright. For an instant he gazed half-conscious to the light: but there was no tear in his eyes, and no flutter in his breast, and he rose up to take the earl's command.

"Alas, my child!" said Raymond, "thou art spent and overwatched. Thy feeble body is too frail for thy spirit. Lie down and rest, and fear not—all will be well."

He put the cross upon his neck, and made him lie on the pallet, and covered him with his cloak, and taking his banner, went out hastily from his tent.

Albert started up and gazed after him, and looked upon the cross, and wept, and knelt, and laid it on his head, and bowed his forehead on the mat that had been touched by the helmet of the earl. Suddenly the trumpet began to sound, the quick clank of arms, and the deep tramp of horses went past as if the earth moved around him. Albert dropped the jewel, and listened, and gazed where the heavy sound went by. The long successive tramp continued without intermission, till a shock like a clap of thunder burst upon the stillness, and a far fearful rolling surge of shouts went up to heaven like the roar of a tempest. In another moment the whole camp seemed to tremble, bolt after bolt shook the walls of the city, and the mingled cries and shouts, and clash of arms, spread like a storm from the beach; and as the tongues of a hundred nations rose and fell, came suddenly the faint shout of the French,—“*Mont Joye St. Denis!*”† Albert started from the ground, and braced his dagger, and did on his bonnet, and rushed out from the tent.

The clear day was bright upon the camp, and the long black lines of men-at-arms were pouring through the white tents like torrents towards the town, but all beneath the wall was lost in dust and smoke, through which the tall black giant tower of assault rose almost as high as the ramparts, where the dim gray battlements could be discerned crowded with men. Albert stood upon the rock under the standard before the tent, and watched the black columns pouring into the cloud, which swallowed them in its darkness. As the sun approached, the faint flash of the crescents and crowded arms could be seen glittering along the ramparts, and at quick intervals the fearful shock of the *war-wolves*, sent up a cloud of dust from the wall; and as it swept off, a deep black gap appeared in the battlements and glittering line of arms. All at once the dark mighty column of the tower began to move, and rose slowly out of the smoke till it looked over the rampart; a thunder of shouts rolled up from the host, and suddenly the flash of arms and banners receded like a bright wave along the wall. In an instant a little bridge fell from the top of the turret upon the battlement, and a white knight, followed by a glittering stream of glaives and lances rushed over to the rampart. A terrific cry came from the turret, and re-echoed from the moat—“*Raymond of Toulouse! Raymond of Toulouse!*” and Albert distinguished the glorious figure of his master and the white cross of France. One moment he gazed, one moment he knelt upon the rock, one moment lifted up his cross, and rushed down into the stream of the assault.

The black terrible tide went on like a torrent into the moat, and the storm of the esclade thickened under the breach; but nothing was visible in the thick darkness, and the black dense press went on and disappeared into the cloud, man over man, till it almost filled up the deep, black, visionless gulf of the moat which roared around it like the bottomless pit. At intervals the heavy shot rebounded on the wall, and the rolling ruin, and the storm of the defence rained down fire, and thunder and battle sleet, through the black cloud: but the slow, dark, iron tide went on—and on—and on over the falling heaps, till suddenly there was

† The ancient war-cry of France.

an explosion as if the heaven and the earth burst amidst the darkness. A moment of fearful stillness prevailed, the smoke rolled away, and the breach appeared to the sun, and all the thick glittering stream of helms and crosses going up over the ruined wall like a swarm of locusts. Again there was rescue—again the charge—and as the cloud opened and shut—now helmets, now turbans glistened in the breach; but suddenly a broad bright gleam broke upon the towers, and the white figure of Earl Raymond appeared on the top turret. A moment he stood amidst the smoke in the sight of all the hosts, and suddenly mounting the bartizan, pitched the white banner in the sun, and began to sing the battle hymn of Toulouse. The field—the breach—the crowded towers sent up a shout like the sea roar, and as the bright silk flew in the wind, the darts and shot clinked on the knight's mail, and glanced through the fluttering banner like sharp sleet. Raymond stood still amidst the shower, waving his hand over the assault, and singing his chorus:

Soli Deo Gloria
Ex Sancti Salvatori!
Corona de Victoria
Sub Cruci Vivi Mori!

As the coming stream poured up towards him, a sudden crowding, a dark object appeared upon a turret, and the black bow of a scorpion moved on the wall, and levelled upon the knight. For an instant it lay upon the battlement, till suddenly the bright eye of the arrow looked at him over the stone; a universal cry and waving of hands and caps came from the assault, but Raymond stood still, waiving his hand, and singing his song, till a wild cry, a flying shadow came through the smoke, and at the moment that the dart parted from the cord, *Albert* threw himself upon the breast of his master, the hissing shaft struck short and sharp in his back, and he dopped from the bosom of the knight upon the rampart.

The dart snapped upon the stone, but the bright point stood stiff and red through the breast of his coat; Raymond dropped the banner and gave a cry of grief, and drew out the broken wood; and as the clear blood gushed after, tore open the breast of the page to staunch the wound, when, as he undid the gorget, he discovered, not the dark neck of a sunburnt boy, but the white snowy throat of a maiden bosom!

She turned her face to the stone—"Thank God!" she said, "I die for you, *as you died for me!*"

Raymond raised her eagerly in his arms—"Who! Who are you?" he exclaimed, looking wildly upon her dark face and snow-white bosom.

"I was—*Blanche Rose!*" whispered the page.

Raymond fell upon her face, and for a moment held her to his mailed breast as still and silent as herself; but suddenly he started up, and rending his surcoat, bound the fillets round her bleeding breast; but still as he wound fold over fold with wild eagerness, the red blood came through the silk.

"It is not painful," said *Blanche*, "it will soon be past!"

Raymond dropped the last bandage, and gazed upon her with the fixedness of despair as she lay still in his arms, her white passive face reclined upon his breast, and her cold hand resting quiet in his mail glove. For a while she lay like one composing into sleep, at last she lifted her heavy eyes—

"I am happy! I die in peace!" she said; and turned her face to his

bosom like an infant to his rest; and one long tremulous sigh, and her breast came still, her hand unclosed, the smile fixed on her white lip, and the tear in her eye, and she lay calm, and still, and placid, like a child on its parent lap.

They buried them together in the valley of Jehosaphat, and raised over them a grave of simple turf; for he said, "Let our pillow be the earth where He has trodden, and let His light shine upon us by day and His dew come down upon our breast at night."

There is a palm tree at the head of the heap, and a little well at the foot, and one white rose of Sharon that blossoms very sweet over the brink, and sheds the incense of the earth over their breasts who sleep below. At evening the gazelle comes to feed upon the green turf, and the bulbul sings on the bough over his flower, and the palmer at noon takes his branch from the tree, and a blossom from the bush, and sits in the shade, and drinks out of the well and says,

Illuminat Dominus faciem suam super te
Et det tibi pacem!

GREECE AS IT IS.

A letter from the Rev. Dr. Olin, to the Senior Editor of the Christian Advocate and Journal.

Rev. and Dear Sir,—It is now one month since I arrived upon the shores of Greece. We were six days upon the coast in making the voyage from Corfu, around the Morea, to Athena. I have spent ten days in this city, and have made a journey of fourteen days in the interior, visiting Egina, Epidaunis, Jeron, Nauplia, Tyrius, Argos, Mycene, Nemea, Corinth, Salona, Delphos, Aracoba, Lavidia, Mantinea, Levetra, Platea, Thebes, Oropos, and Marathon. I have to regret that two places of capital interest are beyond my reach—Sparta, in the extreme South, and Thermopylae, in the North. The distance of these places from Athens deters most travellers from extending their excursions so far; and their neighborhoods are just now infested with robbers, so that they cannot be visited without a military escort. The time which I am able to devote to Greece has elapsed, and I embark to-day for Alexandria.

I have been disappointed in Greece. With regard to its historical and classical interest, and its ancient remains, my expectations have been more than realized. It is on these grounds the precise region which an educated man would desire to see above any other part of the world. It is with regard to its resources and present condition that the numerous accounts of this country, which have been read with so much avidity in America, since the revolt from Turkey, had misled me. I think these accounts have generally been colored by a certain enthusiasm, natural enough, and perhaps allowable in the writers, but not very favorable to the purposes of such readers as seek for precise information.

Greece must be considered, as a whole, to be one of the most sterile regions in Europe, or perhaps in the world. In extent, the present kingdom is less than half the size of Georgia or Missouri. Much more

than one half of this extent—I think not less than three-fourths—is composed of naked mountains, sheer rocks that defy cultivation, without a tree, and generally destitute of verdure of every kind. A high wall of these bare mountains extends from Corfu, on the west, around the Peloponnesus, to Negropont in the east, encompassing the whole country. In the interior of Greece there are valleys of great fertility. The plains of Argos, Corinth, and Lavidia are of considerable extent. So also are the plains of Attica and Marathon. But the largest tract of arable land is in Boetia. This is a beautiful agricultural district, smiling with fields of grain. There are other tracts of productive land which I have not seen; but I have enumerated the principal. These are always mentioned by the people when you speak to them of the sterility of their country. Altogether they may be equal to four or five counties in the United States. Besides these, there are many smaller tracts of arable land; patches at the bases or upon the sides of the mountains.

Greece is dependent upon Odessa for a large part of her bread. Currants are the chief export. The imports of the country greatly exceed the exports. So much for the natural advantages of Greece. It should be added, that the climate is genial—that her commercial position is unrivalled—and that she has many excellent harbors.

Scanty as is the arable land, a large part of it is uncultivated. This is probably the result of several causes, not apparent to a stranger. Some of them, however, are quite upon the surface. More than one half of the land belongs to the government. A part of this immense domain belonged to the Turkish government. The rest consists of the private property of the Turks, confiscated at the close of the war. Government land is sold by auction, the purchaser paying nine per cent. per annum upon the price for thirty years, when the land becomes his own. Of course agriculturists will buy very sparingly upon terms which leave the perfecting of titles to the next generation. Government land is also offered upon rent; but that of individuals is preferred by tenants, as they grant certain facilities, such as advancing seed corn, and furnishing a part of the stock and implements, which the government does not. These advances are re-paid out of the crop, but they are important in a country where there is little capital. The result is, that much of the arable land lays waste. A barbarous system of taxation, adopted from the Turks, presses also upon agriculture. The king takes one-tenth of the produce of the land in kind; a mode of raising revenue oppressive and unequal in the extreme, and directly tending to throw all but land of the best quality out of cultivation. The evil is greatly aggravated by the mode of collection. The taxes of a province are sold to the highest bidder, who collects them himself in kind, and pays the public treasury in cash. He is allowed for this purpose extensive powers, which, all agree, are shamefully abused. The farmer may not thrash his wheat at home, but must carry it upon donkeys, (for there are no roads) to a public thrashing floor, when the tithe is paid. He has then to carry the tenth to the next market, if not above a certain distance, without pay, and to transport the straw, chaff, and his part of the grain, to his own residence. The tales told of the rapacity of these tax farmers are heart-rending. To the poor peasant, there is, in fact, no remedy, though the law may have provided one. Nearly the whole revenue of the kingdom is derived from the land. About two millions of drachmas, (a drachma is one-sixth of a dollar) arise from a duty of ten per cent. upon imports, and of six per cent.

upon exports. Stamps yield a trifle, but the remaining twelve millions arise almost exclusively from the tax on agriculture. The whole revenue is about \$2,400,000; the population of Greece 800,000. This gives about \$3 per head for every man, woman and child. When the extreme poverty of the country is considered, this taxation must be regarded enormous. It falls short of the annual expenses of the government about two millions of drachmas. In the mean time, neither the principal nor interest of a considerable public debt are paid. The army, which is larger in proportion to the population of the country than that of any nation in Europe, with the exception of Prussia, absorbs a large part of the revenue. The king's civil list is \$200,000 per annum. He is engaged in building a palace, to cost several millions, and larger than Napoleon's at St. Cloud.

In the mean time there are not fifty miles of road in Greece over which it would be practicable to drive a wagon. I do not speak of some plains, where a cart might pass without a road. It was well said to me by an intelligent Greek gentleman, "the Bavarians have placed the huge saddle of a camel upon the back of a poor donkey!"

The government is, I have reason to believe, generally unpopular. It is absolute, though a representative legislature was solemnly promised. It is still expected, and loudly demanded by the Greeks, who have yet a free press, which they do not fail to abuse. I read several articles in papers which are printed in French as well as in Greek. Some ameliorations have been granted. The most of the Bavarian troops and ministers have been succeeded by natives. The king is thought to be well disposed, but to be under decided Russian influence. Persons who have been long in the country speak of decided improvement. Improvement, a state of peace, and some approach to security of property, will generally produce, in spite of bad government, especially when affairs have arrived already at their worst possible state.

I have mentioned those obstacles which result from physical causes, and some which arise from the evil policy that presides over Greece. I fear there are others that grow out of the character and habits of the people. Certainly the Greeks are in a very low state of civilization. A stranger should speak with caution upon such subjects; but there are facts that press themselves upon his observation. I have said the country has no roads; it has no mails; of course, no carriages out of the cities. In Athens there are many. I saw some at Argos, and two in Nauplia.

As a general thing, the houses in the villages, and nine-tenths of them in the towns, are wretched hovels, built of sun-dried bricks, or loose stones, laid in mud. The vicissitudes of one American winter would demolish them. As to the interior, with a considerable number of exceptions, they are without floors, or fire-places, or windows. They have neither tables, beds, nor chairs. The filthy dirt-floor, sometimes with a mat of straw, or an old quilt spread upon it, serves for beds, chairs, and tables. The fire is kindled upon a sort of hearth, and the smoke finds its way through the roof. In the agricultural villages the oxen and horses commonly occupy the same apartment with the family, which they enter by the same door.

I have dined several times at these places. The habits of the people are disgustingly filthy; and, I speak from painful experience, their habitations swarm with vermin. The traveller in this country carries his quilt, his cloak, his food, and utensils, and, by paying about the price of

an elegant bed-chamber in Paris, is allowed a place upon the floor in these wretched hovels!

Athens has 19,000 inhabitants, and many good houses. Nauplia, the only town in Greece not destroyed in the revolution, has also many good buildings, with perhaps 4,000 inhabitants. Argos, Lavidia, and Thebes, with each a population of from 4 to 6,000, are built in the meanest style. Patras is a little better. These are the principal places. Corinth has only 1,200 people.

The war against the Turks was certainly the most ferocious and desolating that has been waged in modern times. With the exception of Nauplia, and a few remote mountain villages, every town, and almost every habitation, was destroyed.

I at first ascribed the meanness of the houses to their hasty reconstruction; but upon farther examination of the ruined habitations, found that they are all built in the same inferior style. The standard of taste and comfort is degraded. No wonder that centuries of oppression should have produced such results. Still the flattering accounts which had fallen under my notice had not prepared me for so general a prevalence of degradation and barbarism. Those who look and labor for the regeneration of Greece, and her elevation to the dignity of a civilized country, must have patience. Great changes cannot be wrought hastily. It savors of a school-boy enthusiasm to expect that because in the days of Pericles and Epaminondas, the Greeks were polished and highly civilized, the present occupants of the country, who are perhaps as nearly allied to many tribes of barbarians who have at different periods, overrun and occupied this classic land, as to the heroes of Marathon and Platea, are to be suddenly invested with the high attributes of moral, social and intellectual excellence, which are always of slow growth, and the results of favorable circumstances, accompanied with careful and long culture. In Athens, and some other places, the intercourse of trade and commerce, and still more, the settlement of a large number of foreigners, may be expected to work a speedy and considerable improvement; but many years, probably generations, will pass away before an effective civilization, such as pervades the masses in the United States, and in one or two of the nations of Europe, can reach the interior and remote parts of Greece.

I do not distrust the power of moral influences. In proportion as these are multiplied and judiciously directed may we hope for the regeneration of this people. Should it please God to revive pure Christianity in the Greek Church, all that I have said of obstacles and delay should be greatly modified, or wholly rejected. Unfortunately, there is not, so far as I can learn, any very decisive indication of such a revival. With a creed not very remote from the truth as it is in Jesus, this Church, to which the people are blindly devoted, has neither intellectual nor spiritual power for great moral achievements. The foreign agencies are decidedly unequal to the wants of the country; nor have they, so far as I can learn, been signalized by any very marked token of the divine approbation. The American Board of Foreign Missions has four missionaries here, laboring with zeal and fidelity for which the agents of that society are everywhere proverbial. The Rev. Dr. King, the veteran missionary, and the Rev. Mr. Benjamin, are in this city. Dr. K. preaches in Greek, and both are fully engaged in the important work of publishing and circulating good books. For this labor, Greece is an open and

most promising field, and much good may be confidently anticipated from the exertions of these zealous men. Two of their associates are stationed in the southern Morea, laboring with good encouragement. A Baptist missionary is stationed at Patras, also from the United States. I did not know of this circumstance when I was in that city, or I should have called on him. The Rev. Mr. Hill and his lady, of the American Episcopal Church, are doing much good in this city through the instrumentality of a flourishing school, or rather of several schools, containing about six hundred pupils. They exercise an extensive influence. Some instances of conversion, Mr. Hill thinks, have taken place among their pupils, and the cause of education in Greece is greatly indebted to their exertions. There is one Church of England missionary here, and two in Sirra. The most favorable indication existing at present among the Greeks, is the lively interest they take in the cause of education. The king is understood to be decidedly favorable to the instruction of the people. The towns and larger villages are required to maintain schools, and I was gratified to find them in existence, and apparently flourishing in Patras, Argos, Thebes, and other places. There is a large and flourishing female school in this city supported by the Greeks on the voluntary principle. A considerable portion of the people are said to manifest great eagerness to have their children taught, and the children to be apt and fond of learning. The University of Otho, considering the state of the country, may be said to be flourishing. It has twenty-seven professors in its several faculties of letters, science, philosophy, medicine, law, and theology. Most of them, perhaps, have some other employment, but the number shows, at least, that the plan is ample. More than two hundred students attend the lectures, which are in modern Greek. They come, not only from all parts of Greece, but from Turkey. The same is true of the girls in the female schools. I have heard several anecdotes of the sacrifices and poverty of the students, which indicate a degree of enterprise and stubborn purpose that would do honor to New England. I have mentioned the press as free. It is not legally so, but is in fact. The French system is adopted. A publisher must deposit a large sum of money, to pay fines, if he shall incur such a penalty, and a responsible editor is answerable to the tribunals for all that appears in his paper. The affair is managed thus. A company raise the money requisite for the deposit; some person who will endure imprisonment for moderate pay, commonly an indigent student, is announced as editor. The paper is conducted in a free and fearless spirit, canvassing public measures without restraint, only avoiding what may be personally offensive to the king. If troubles arise, the vicarious editor is ready to go to jail, where he can still pursue his studies, and make more money, and fares better than he does elsewhere. It is said the office is rather coveted. An untrammelled press is a check upon an arbitrary government, and no doubt the best substitute for a representative assembly, to which I think it must ultimately lead, if its freedom be not stifled. I ought to say that many liberal men distrust the fitness of the country for such a government at present, though they think it indispensable as an ultimate arrangement. The excessive corruptibility of the Greeks is the reason given why the boon should be delayed. It is said to be impossible to fill the offices with honest men, so demoralizing has been the influence of Turkish rule. It is almost a matter of course, a sort of right, for men in power to take bribes. The lowest officers, the mayors of petty villages, rival,

in this respect, a Turkish pasha. Many hope that when a little wealth shall be diffused men may be found for representatives less exposed to temptations. Now it is thought they would become the minions of royalty.

Labor is better paid for here than in any country in Europe—40 to 50 cents per day. Charges at inns high. I paid per day for a horse and guide, without keep, 84 cents per day; interpreter the same. I rode with a halter upon a pack saddle, which is a huge frame of wood, not unlike the frame of a cross-legged table. With quilts and whatever you choose to lay upon it, it is, as to ease, a decided improvement upon the common saddle. The stirrup was of rope. I was commonly mounted eight or ten hours daily, riding over such places as I could believe it possible to travel with impunity, only because I had passed them unharmed. This, with sleeping on the ground, or the floor, with no bed but a single quilt, was a good trial of my health. I returned to Athens better than when I left it. It is a journey which a man, having completed it, would rejoice to have undertaken, but which a sensible and sensitive man would not be induced to make again, but in obedience to some imperative call of duty.

I remain, reverend and dear sir, your friend and brother,
Athens, Dec. 19, 1839. S. OLIN.

STORMING OF BADAJOZ.

I am now about entering into a personal narrative of one of the most sanguinary and awful engagements on the records of any country. For the second time in my life I volunteered on the forlorn hope. After having had a double allowance of grog, we fell in about eight o'clock in the evening. The stormers were composed of men from the regiments of the light division. I happened to be on the right of the front section, when my old Captain, Major O'Hare, who commanded the wing to which my company belonged, came up in company with Captain Jones, of the 52nd Regiment, both in command of the storming party. A pair of uglier men never walked together, but a brace of better soldiers never stood before the muzzle of Frenchman's gun.

"Well, O'Hare," said the Captain, "what do you think of to-night's work?"

"I don't know," replied the Major, who seemed, I thought, in rather low spirits. "To-night, I think will be my last."

"Tut, tut, man! I have the same sort of feeling, but I keep it down with a drop of the *cratur*," answered the Captain, as he handed his calabash to the Major.

A countryman of my own, Serjeant Fletnning, then coming up, informed Major O'Hare that a ladder party was wanted. "Take the rank files of the leading sections," was the prompt order of the Major. No sooner said than done. I and my front-rank-men were immediately tapped on the shoulder for the ladder-party. I now gave up all hope of ever returning.

At Rodrigo, as before stated, we had fatigue-parties for the ladders, but now the case was altered; besides which the ladders were much longer than those employed at Rodrigo.

I may just mention that, whatever were my own forebodings on the occasion, the presentiments of our fine old Major O'Hare and those of Captain Jones were fatally realized, for in less than twenty minutes after the above conversation both fell riddled with balls.

The word was now given to the ladder-party to move forward. We were accompanied by two men at each side with hatchets, to cut down any obstacle that might oppose them, such as *chevaux de frise*. There were six of us supporting the ladder to which I belonged, and I contrived to carry my grass-bag before me. We had not proceeded far when we heard the sound of voices on our right, upon which we halted, and supposing they might be enemies, I disengaged myself from the ladder, and, cocking my rifle, prepared for action. We soon discovered our mistake, as one of our party cried—"Take care! 'Tis the stormers of the 4th division coming to join us." This proved to be the case. This brief alarm over, we continued advancing towards the walls, the Rifles as before keeping in front. We had to pass a fort on our left, near to the town, and as we neared it the French sentry challenged. This was instantly followed by a shot from the fort and another from the walls of the town. A moment afterwards, a fire-ball was thrown out which threw a bright-red glare of light around us; and instantly a fire of grape-shot, canister, and small arms poured in among us, at a distance of about thirty yards from the walls, as we stood on the glacis.

Three of the men carrying the ladder with me were shot dead in a breath, and, the weight of the ladder falling upon me, I fell down with the grass-bag on my breast. The remainder of the stormers rushed up, regardless of my cries or those of the wounded men around me, for by this time our men were falling fast. Many in passing were shot and fell upon me, so that I was actually drenched in blood. The weight I had to sustain became intolerable, and had it not been for the grass-bag, which in some measure protected me, I must have been suffocated. At length, by a strong effort, I managed to extricate myself; in doing which I left my rifle behind me, and, drawing my sword, rushed towards the breach. There I found four men putting a ladder down the ditch; and, not daring to pause, fresh lights being still thrown out of the town, with a continual discharge of musketry, I slid quickly down the ladder, but before I could recover myself, was knocked down and covered by the dead bodies of men who were shot in attempting the descent. Again I succeeded in extricating myself from underneath the bodies, and rushing forward to the right, to my surprise and fear I found myself nearly up to my head in water. Until then I was tolerably composed, but now all reflection left me, and driving through the water, being a good swimmer, I attempted to make to the breach. In doing this I lost my sword. Without rifle, sword, or any weapon, I succeeded in clambering up part of the breach, and came near to a *chevaux de frise*, consisting of a piece of heavy timber studded with sword-blades, turning on an axis; but just before reaching it I was struck on the breast, whether by a grenade, a stone, or by the butt-end of a musket, I cannot say, but down I rolled and lay senseless, how long I know not, but drenched with both water and human gore.

When my senses in some measure returned, I perceived our gallant fellows still rushing forward, each seeming to share a fate more deadly

than my own. The fire continued in one horrible and incessant peal, as if the mouth of the infernal regions had opened to vomit forth destruction upon mankind. This was rendered still more appalling by the fearful shouts of the combatants and the cries of the wounded that mingled in the uproar.

I now, strange to say, began to feel if my arms and legs were entire; for at such moments a man, I believe, is not always aware of his wounds. I now, indeed, lost all the frenzy of the courage that had first possessed me, and actually seemed all weakness and prostration of spirit, while I endeavored to screen myself from the enemy's shot among the dead bodies around me. As I lay in this position, the fire still continued blazing over me in all its horrors, accompanied by screams, groans, and shouts, and the crashing of stones and falling of timbers. I now, for the first time for many years, uttered something like a prayer.

After the horrid and well-known scene of carnage had lasted some time, the fire gradually slackened from the breach, and I heard a cheering which I knew to proceed from within the town, and shortly afterwards a cry of "Blood and 'ounds! where's the Light Division?—the town's our own,—hurrah!" This proceeded, no doubt, from some of the third division. I now attempted to rise, but found myself unable to stand from a wound which I had received, but at what time I know not. A musket-ball had passed through the lower part of my right leg—two others had passed through my cap. At the moment of this discovery I saw two or three men moving towards me, who I was glad to find belonged to the Rifles. One of them, named O'Brien, of the same company as myself, immediately exclaimed—"What! is that you, Ned?—we thought you ladder-men all done for." He then assisted me to rise.

In consequence of the *chevaux de frise* still remaining above the breach, we could not enter the town until more men arrived to remove its fastenings. The third division meanwhile had entered the town on our right by the castle where there was no breach. We proceeded onwards, I moving with great difficulty, though partly supported by O'Brien. At the top of the breach we found another trench with a plank of wood going across leading into the town. Not until then I felt drops of blood trickling down my face, and found that one of the balls, in passing through my cap, had torn the skin on my head.

In this crippled state, leaning upon my comrade, and using his rifle as a crutch, accompanied by a few of our riflemen, I entered the town that had been so gloriously won. We still heard occasional firing and cheering from the one end of the town, and imagined the fight was still partially raging, although, as we soon afterwards learnt, the chief part of the French had retired to the citadel, or fort, where they surrendered on the following morning. Angry and irritated, from the pain occasioned by my wound, we had just turned the corner of a street, when we observed some men, and, from the light that shone from a window opposite, we could see from their uniforms they were evidently Frenchmen. At the same moment they saw us and disappeared, with the exception of one man, who seemed to make a rush at us with his musket. O'Brien sprang forward and wrested his firelock from his grasp. A feeling of revenge, prompted by the suffering I endured from my wounds, actuated my feelings as I exclaimed, "O'Brien, let me have the pleasure of shooting this rascal, for he may be the man who has brought me to the state I am now in!" I then presented my rifle close to his breast, with the

full intention of shooting him through the body, but as my finger was about to press the trigger he fell upon his knees and implored mercy. The next moment the rifle dropped from hand, and I felt a degree of shame that a feeling of irritation had nearly betrayed me into the commission of a crime for which I should never have forgiven myself.

The Frenchman, as soon as he perceived me desist, immediately started from his knees, on which he had fallen trembling, and, by way of showing his gratitude, threw his arms round my neck, and wanted to kiss my cheek. He instantly followed me, and I forthwith, for the time, took him under my protection.

We looked anxiously around for a house where we could obtain refreshment, and, if truth must be told, a little money at the same time. Even wounded as I was, I had made up my mind to be a gainer by our victory. The first house we knocked at no notice was taken of the summons, when we fired a rifle at the key-hole, which sent the door flying open. This, indeed, was our usual method of forcing locks. As soon as we entered the house we found a young Spanish woman crying bitterly, who prayed for mercy. She informed us she was the wife of a Frenchman; and, to the demand of my companion, O'Brien, for refreshment, she replied there was nothing but her poor self in the house. She, however, produced some spirits and chocolate, of the latter of which, being very hungry and faint, I partook with much relish.

As the house looked poor we soon quitted it on our quest for a better. Supported by O'Brien and the Frenchman, we proceeded in the direction of the market-place. It was a dark night, and the confusion and uproar that prevailed in the town may be better imagined than described. The shouts and oaths of drunken soldiers in quest of more liquor, the reports of fire-arms and crashing in of doors, together with the appalling shrieks of hapless women, might have induced any one to have believed himself in the regions of the damned.

When we arrived at the market-place we found a number of Spanish prisoners rushing out of a gaol: they appeared like a set of savages suddenly set free, many still bearing chains they had not had time to free themselves from, and among these were men of the 5th and 88th Regiments holding lighted candles. We then turned down a street opposite to the foregoing scene, and entered a house which was occupied by a number of men of the 3rd Division. One of them, immediately on seeing me wounded, struck off the neck of a bottle of wine with his bayonet, and presented some of it to me, which relieved me for a time from the faintness I had previously felt. The scenes of wickedness that soldiers are guilty of on capturing a besieged town are oftentimes truly diabolical, and I now, in the reflections this subject gives rise to, shudder at the past. I had not long been seated at the fire which was blazing up the chimney, fed by mahogany chairs that had been broken up for the purpose, when I heard screams for mercy from an adjoining room. On hobbling in, I found an old man, the proprietor of the house, on his knees, imploring mercy of a soldier who had levelled his musket at him. I with difficulty prevented the soldier from shooting him, as he complained that the Spaniard would not give up his money. I immediately informed the wretched landlord in Spanish, which I spoke tolerably well, that he could only save his life by surrendering his cash. Upon this he brought out with trembling hands a large bag of dollars from under the mattress of the bed. These by common consent were immediately divided among

the men present; and I must confess I participated in the plunder, getting sixteen dollars for my share.

After this I resumed my seat by the fire, when a number of Portuguese soldiers entered, one of whom, taking me for a Frenchman, for I had the French soldier's jacket on, my own being wet, snapped his piece at me, which luckily hung fire. I instantly rushed at him as well as I was able, when a scuffle ensued, and one of the Portuguese being stabbed by a bayonet, they retired, dragging the wounded man with them. After ejecting the Portuguese, our men, who had by this time got tolerably drunk, proceeded to ransack the house. Unhappily they discovered the two daughters of the old man of the house, who had concealed themselves up stairs. They were both young and pretty. The mother, too, was shortly afterwards dragged from her hiding-place. I refrain from describing the scene which followed.

Without dwelling on the frightful details, it may be sufficient to add that our men, more infuriated by drink than before, seized on the old man and insisted on a fresh supply of liquor. His protestations that he possessed no more were in vain, as were my attempts to restrain them from ill-using him.

It is to be lamented that the memory of an old soldier should be disturbed by such painful reflections as the foregoing scenes must give rise to: but it is to be considered that the men who besiege a town in the face of such dangers generally become desperate from their own privations and sufferings; and when once they get a footing within its walls—flushed by victory, hurried on by the desire of liquor, and maddened by drink—they stop at nothing: they are literally mad, and are hardly conscious of what they do in such a state of excitement. I do not state this in justification: I only remark what I have observed human nature to be on these occasions.

Sick of the scene of horrors that had been enacted, attended by my French prisoner, I left the house for one on the other side of the street. This we found occupied by men of the 3d Division, who were drinking chocolate, not made with water, but wine. They seemed rather more sober and peaceable than those we had just left: but here, also, as in most of the houses in Badajoz that night, the greatest outrages were committed.

Having passed a wretched night, the next morning, being determined to rejoin my regiment, if there were any left of them—for at this time I did not know what number we had lost—I left the house accompanied by my Frenchman, who rendered me every assistance in his power. It appeared to me that the town was still in great confusion and uproar, although every available means had been taken to suppress it. In one of the streets I saw the Duke of Wellington giving directions about the erection of a gallows for the punishment of the guilty; but it seemed only a mockery to them. Even then his Grace was surrounded by a number of British soldiers, who, holding up bottles with the heads knocked off, containing wine and spirits, cried out to him, using a phrase then familiarly applied to him by the men of the Army, “—, old boy! will you drink? The town's our own—hurrah!” I am not aware that a single execution took place, notwithstanding the known severity of the Duke in matters of plunder and outrage. I feel bound to say, that a prejudice existed on the part of our men against the inhabitants of Badajoz, owing

to their having submitted so tamely to the French. It was different at Ciudad Rodrigo, where the Spaniards had defended themselves gallantly.

On my way to join the camp, and, feeling fatigued, I sat down with my prisoner on a bench, opposite the bridge which leads to Fort St. Christoval. We had not been long seated when I was amused by a large baboon, which was surrounded by a number of soldiers, who were tormenting him. The poor animal had been wounded in the foot, probably by one of our men, and by his chattering, grinning, and droll gesticulations, he showed as much aversion to the red coats as any of the French could possibly have done. While the men about were teasing the animal, a servant, stating that it belonged to the Colonel of the 4th Regiment, who he said was wounded, attempted to take the beast away, whereupon, the party being divided in their sentiments, a scuffle ensued, in which several men were wounded with bayonets.

As we got up to proceed we saw a number of Frenchmen, guarded by our soldiers, coming over the bridge. They were the prisoners taken in Fort St. Christoval, that had that morning surrendered. These prisoners were soon surrounded by our men, who began examining their knapsacks, from whence a number of watches, dollars, &c., were soon extracted. A short distance farther on I came up with a mule tied to a door, which, in my crippled state, I immediately appropriated to my use, and which I afterwards sold to Lieut. Jackson, of the 83d Regiment. Mounted on the animal, which was led by the Frenchman, we pursued our way until we arrived near the gates that led to the camp, when rather an affecting scene came under my eye. It was a little fellow, a drummer boy belonging to the 88th Regiment, who was lying wounded, his leg being broken by a shot, and crying bitterly. On telling him I would get him carried by the Frenchman, if he wished, "Oh, no!—oh, no!" said the boy, "I don't care for myself. Look at my poor father, where he lies!" pointing to a man shot through the head, lying weltering in a gore of blood. Poor little fellow! I gave him a couple of dollars, and called some men to his assistance when I was compelled to leave him. We soon arrived at the camp-ground of the 3d Division. When I dismounted, and while sitting on one of the men's knapsacks, one of the 83d Regiment was engaged in cleaning his firelock, when the piece went off and shot a corporal through the head, wounding also the hand of another man. The Frenchman seemed dreadfully frightened: he turned pale as marble, perhaps thinking the shot aimed at him, as the corporal fell dead beside him. This accident struck me as a forcible example of the casualties that attend a soldier's life. I could not, indeed, help feeling for the poor corporal, who, after surviving the dangers of the preceding night, had lost his life by a clumsy hand cleaning a firelock.

It may appear strange that I did not wish to remain in Badajoz, but I was suffering from my wound, and preferred the quiet of the camp. I had no sooner arrived there than I was obliged to part with my faithful Frenchman, who I believe was sent to join the other prisoners. I gave him a few dollars, which most likely he was deprived of before he got many yards. He left me with many expressions of gratitude for the protection I had afforded him. A few days afterwards I was sent into the hospital in Badajoz, where I continued under medical treatment until sufficiently recovered to rejoin the army, which I did near Ciudad Rodrigo.

I have been in many actions, but I never witnessed such a complication of horrors as surrounded me on the forlorn hope at Badajoz.

Memoirs of Edward Costello, K. S. F.

LAURA BRIDGMAN.

THE last number of the Annual Report of the Trustees of the Perkins Institution and Asylum for the Blind, contains some further interesting intelligence respecting this little girl, who is deaf, dumb, and blind. She is also deprived of the sense of smell, and enjoys taste but imperfectly—the *touch*, alone, being the medium of communication between her and the outer world. The following account of the progress of this little girl in intellectual knowledge, is furnished by the report:

“There is one whose situation is so peculiar, and whose case is so interesting in a philosophical point of view, that we cannot forbear making particular mention of it; we allude to Laura Bridgman, the deaf, dumb, and blind girl, mentioned in the two last reports.

The intellectual improvement of this interesting being, and the progress she has made in expressing her ideas, is truly gratifying.

She uses the manual alphabet of the deaf mutes, with great facility and great rapidity; she has increased her vocabulary so as to comprehend the names of all common objects; she uses adjectives expressive of positive qualities, such as hard, soft, sweet, sour, &c.; verbs expressive of action—as give, take, ride, run, &c.; in the present, past, and future sense; she connects adjectives with nouns to express their qualities; she introduces verbs into sentences, and connects them by conjunctions; for instance, a gentleman having given her an apple, she said *man give Laura sweet apple*.

She can count to high numbers; she can add and subtract small numbers.

But the most gratifying acquirement which she has made, and the one which has given her the most delight, is the power of *writing a legible hand*, and expressing her thoughts upon paper. She writes with a pencil in a grooved line, and makes her letters clear and distinct.

She was sadly puzzled at first to know the meaning of the process to which she was subjected, but when the idea dawned upon her mind, that by means of it she could convey intelligence to her mother, her delight was unbounded. She applied herself with great diligence, and in a few months actually wrote a legible letter to her mother; in which she conveyed information of her being well, and of her coming home in ten weeks. It was, indeed only the skeleton of a letter; but still it expressed in legible characters, a vague outline of the ideas which were passing in her mind. She was very impatient to have *the man* carry this letter—for she supposed that the utmost limit of the Post Office Department was to employ a man to run backward and forward between our Institution and the different towns where the pupils live, to fetch and carry letters. We subjoin to this report an exact *fac simile* of Laura's writing observing that she was not prompted to the matter, and that her hand was not held in the execution. The matter is quite original, and the chirography is entirely her own.

She has improved very much in personal appearance, as well as in intellect—her countenance beams with intelligence—she is always active at study, work or play—she never repines, and most of the time is gay and frolicsome.

She is now very expert with her needle; she knits very easily, and can make twine bags and various fancy articles, very prettily. She is very

docile—has a quick sense of propriety—dresses herself with great neatness, and is always correct in her deportment. In short, it would be difficult to find a child in the possession of all her senses, and the enjoyment of the advantages that wealth and parental love can bestow, who is more contented and cheerful, or to whom existence seems a greater blessing than it does to this bereaved creature, for whom the sun has no light, the air no sound, and the flowers no color or smell."

In the appendix, a more elaborate description is given of the case and acquirements of this little girl—thus shut out in a great degree from communication with her fellow beings. It must be gratifying to those who are interested in the study of the operations of the human mind, to know that careful observations continue to be made, with a view of ascertaining the order of developements, and the peculiar character of her intellectual faculties. The following extracts from the appendix will be found interesting:

"Having mastered the manual alphabet of the deaf mutes, and learned to spell readily the names of every thing within her reach, she was then taught words expressive of positive qualities, as hardness, softness; and she readily learned to express the quality, by connecting the adjective hard or soft with the substantive; though she generally followed what one would suppose to be the natural order in the succession of ideas, placing the substantive first."

"No definite course of instruction can be marked out; for her inquisitiveness is so great, that she is very much disconcerted if any question which occurs to her is deferred until the lesson is over. It is deemed best to gratify her, if her enquiry has any bearing on the lesson; and often she leads her teacher far away from the objects he commenced with.

For instance, picking up a nail in one of her lessons, she instantly asked its name—and it being spelt, she was dissatisfied, and thought the teacher had made a mistake; for she knew *nail* stood for her finger-nail—and she was very anxious to go to head-quarters, to be sure the teacher was right.

She often asks questions which unfortunately cannot be satisfactorily answered to her; for it is painful to excite such a vivid curiosity as now exists in her mind, and then baulk it. For instance, she once asked with much eagerness, why one arrangement of letters was not as good as another, to express the name of a thing; as why *tac*, should not express the idea of the animal as well as *cat*. This she expressed partly by signs, and partly by words, but her meaning was perfectly clear; she was puzzled and wished an explanation."

"In her eagerness to advance her knowledge of words, and to communicate her ideas, she coins words, and is always guided by analogy. Sometimes her process of *word-making* is very interesting; for instance, after some time spent in giving her an idea of the abstract meaning of *alone*, she seemed to obtain it, and understanding that being by *one's self* was to be alone, or *al-one*, she was told to go to her chamber, or school, or elsewhere, and return *alone*, she did so; but soon after, wishing to go with one of the little girls, she strove to express her meaning thus—*Laura go al-two*."

"Having acquired the use of substantives, adjectives, verbs, prepositions, and conjunctions, it was deemed time to make the experiment of trying to teach her to *write*, and to show her that she might communicate her ideas to persons not in contact with her.

It was amusing to witness the mute amazement with which she submitted to the process—the docility with which she imitated every motion, and the perseverance with which she moved her pencil over and over again in the same track, until she could form the letter. But when at last the idea dawned upon her, that by this mysterious process she could make other people understand what she thought, her joy was boundless.

Never did a child apply more eagerly and joyfully to any task than she did to this, and in a few months she could make every letter distinctly, and separate words from each other.

The following anecdote will give an idea of her fondness for teasing, or innocent fun or mischief. Her teacher, looking one day unobserved into the girls' play-room, saw three blind girls playing with the rocking-horse. Laura was on the crupper, another in the saddle, and a third clinging on the neck, and they were all in high glee, swinging backward and forward as far as the rockers would roll. There was a peculiarly arch look in Laura's countenance—the natural language of sly fun. She seemed prepared to give a spring, and suddenly when her end was lowest, and the others perched high in the air, she sidled quickly off on to the floor, and down went the other end so swiftly as to throw the girls off the horse.

This Laura evidently expected, for she stood a moment convulsed with laughter, then ran eagerly forward with outstretched hands to find the girls, almost screaming with joy. As soon, however, as she got hold of one of them, she perceived that she was hurt, and instantly her countenance changed, she seemed shocked and grieved, and after caressing and comforting her playmate, she found the other, and seemed to apologize by spelling the word *wrong*, and caressing her.

When she can puzzle her teacher she is pleased, and often purposely spells a word wrong, with a playful look; and if she catch her teacher in a mistake, she bursts into an ecstasy of laughter.

When her teacher had been at work, giving her an idea of the words carpenter, chair-maker, painter, &c., in a generic sense, and told her that blacksmith made *nails*, she instantly held up her fingers, and asked if the blacksmith made them, though she knew well he did not.

With little girls of her own age she is full of frolic and fun, and no one enjoys a game at *romps* more than Laura.

She has the same fondness for a dress, for ribbons, and for finery, as other girls of her age, and as a proof that it arises from the same amiable desire of pleasing others, it may be remarked that whenever she has a new bonnet, or any new article of dress, she is particularly desirous to go to meeting, or to go out with it. If people do not notice it, she directs their attention by placing their hands upon it.

Generally she indicates her preference for such visitors as are the best dressed."

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"She seems to have a perception of character, and to have no esteem for those who have little intellect. The following anecdote is significant of her perception of character, and shews that from her friends she requires something more than good-natured indulgence.

A new scholar entered school—a little girl about Laura's age. She was very helpless, and Laura took great pride and great pains in showing her the way about the house, assisting her to dress and undress, and doing for her many things which she could not do herself.

In a few weeks it began to be apparent even to Laura, that the child was not only helpless, but naturally very stupid, being almost an idiot. Then Laura gave her up in despair and avoided her, and has ever since had an aversion to being with her, passing her by as if in contempt. By a natural association of ideas she attributes to this child all those countless deeds which Mr. *Nobody* does in every house—if a chair is broken, or any thing is misplaced and no one knows who did it, Laura attributes it once to this child.

It has been observed before that she is familiar with the processes of addition and subtraction in small numbers. Subtracting one number from another puzzled her for a time, but by help of objects she accomplished it. She can count and conceive objects, to about one hundred in number—to express an infinitely great number, or more than she can count she says, *hundred*. If she thought a friend was to be absent many years she would say—will come *hundred Sundays*—meaning weeks. She is pretty accurate in measuring time, and seems to have an intuitive tendency to do it. Unaided by the changes of night and day, by the light, or the sound of any timepiece, she nevertheless divides time accurately."

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"With regard to the sense of touch it is very acute—even for a blind person. It is shown remarkably in the readiness with which she distinguishes persons: there are forty inmates in the female wing, with all of whom of course Laura is acquainted; whenever she is walking through the passage ways, she perceives by the jar of the floor, or the agitation of the air, that some one is near her, and it is exceedingly difficult to pass her without being recognized. Her little hands are stretched out, and the instant she grasps a hand, a sleeve, or even part of the dress, she knows the person and lets them pass on with some sign of recognition.

The innate desire for knowledge, and the instinctive efforts which the human faculties make to exercise their functions is shown most remarkably in Laura. Her tiny fingers are to her as eyes, and ears, and nose, and most deftly and incessantly does she keep them in motion: like the feelers of some insects which are continually agitated, and which touch every grain of sand in the path, so Laura's arms and hands are continually in play; and when she is walking with a person she not only recognises every thing she passes within touching distance, but by continually touching her companion's hands she ascertains what he is doing. A person walking across the room while she had hold on his left arm, would find it hard to take a pencil out of his waistcoat with his right hand, without her perceiving it.

Her judgment of distances and of relations of place is very accurate; she will rise from her seat, go straight towards a door, put out her hand just at the right time, and grasp the handle with precision.

When she runs against a door which is shut, but which she expected to find open, she does not fret, but rubs her head and laughs, as though she perceived the ludicrous position of a person flat against a door trying to walk through it.

The constant and tireless exercise of her feelers gives her a very accurate knowledge of every thing about the house; so that if a new article, a bundle, bandbox or even a new book is laid any where in the apartments which she frequents, it would be but a short time before in her ceaseless rounds she would find it, and from something about it she would generally discover to whom it belonged.

She perceives the approach of persons by the undulations of the air striking her face; and she can distinguish the step of those who tread hard, and jar the floor.

At table, if told to be still, she sits and conducts herself with propriety; handles her cup, spoon, and fork, like other children; so that a stranger looking at her would take her for a very pretty child with a green ribbon over her eyes.

But when at liberty to do as she chooses, she is continually feeling of things, and ascertaining their size, shape, density, and use—asking their names and their purposes, going on with insatiable curiosity, step by step, towards knowledge.

Thus doth her active mind, though all silent and darkling within, commune by means of her one sense with things external, and gratify its innate craving for knowledge by close and ceaseless attention.

Qualities and appearances, unappreciable or unheeded by others, are to her of great significance and value; and by means of these her knowledge of external nature and physical relations will in time become extensive."

Boston Journal.

SPORTING INTELLIGENCE.

For the Southern Cabinet.

GAME.—(CONTINUED.)

Ducks.—Our markets have, during the past season, been pretty largely supplied with Ducks from a new source. A party of Northern sportsmen, furnished with boats and large guns, established themselves in the vicinity of Georgetown, not we think to the gratification of the neighboring planters. These men, like the famed Capt. Dalgetty, fought for pay, and hunted for the market. Their success must have been equal to that usually obtained on the Chesapeake, and the mouths of the Delaware and Hudson. By this means, the price of these fine birds was considerably reduced in our market.

We have been somewhat surprised that in Carolina, which abounds with nearly all the species of Duck that visit the United States, no attempts have been made in constructing decoys as in Europe. Nearly all the Ducks brought to the markets of Liverpool and Amsterdam, are taken in decoys. In this way it is stated that upwards of one hundred dozen were taken in a decoy in a single night. The species captured in this manner, are identically the same as those most common with us—the Mallard, red-headed Duck, Widgeon, Teal, &c. A single decoy, situated in a retired and favorable part of our low country, attended by a careful person, would supply our market, and be a source of very great profit. A description of the manner of constructing a decoy, is found in Wilson's Ornithology, and in Rees' Cyclopaedia, under the heads of Decoy and Water Fowl. There is another successful mode of capturing Ducks, practised

in Europe. A net is made of the smallest and strongest pack thread. The meshes are so large, that the body of a Duck can pass through. This net is lined on each side with smaller nets, the meshes of which are about an inch and a half square. When the bird strikes this small net, it forces its body, together with the net, through the large meshes, and is secured. Nets of this description are pitched for the evening flight of fowl, about an hour before sunset. They are usually stretched across rivers and streams. The lower side of the net is sunk six inches in the water, and the upper part rising above it for three or four feet. In the morning, great numbers are taken from the net.

The only attempt at taking Ducks alive, which we witnessed in this State, was by a person named Harley, residing on the road to Columbia. He caught them in traps, clipped their wings, and kept them in an enclosure till he had a sufficient number to go to market. We saw about 300 Mallards and summer or acorn Ducks enclosed in a pen, and subsequently purchased some of them alive in the Charleston market.

Various expedients are used in the Chesapeake to bring Ducks within reach of the sportsman's gun—among which, tolling, as it is called, is the most singular, and at the same time very successful. Several carved pieces of wood, painted to represent Ducks floating in the water, are attached to long strings, and suffered to float at a considerable distance. The Ducks alight among these wooden imitations—the sportsman gently pulls the string, and the Ducks follow the decoy till they are brought within shooting distance. We once saw this amusement pursued on a smaller and humbler scale. We were going from Savannah to Puyrsburgh in a small steamer. A negro had anchored his canoe in the stream. He had a wooden decoy duck, but no gun. To our great surprise, he tolled several wild Ducks so near his canoe, that he knocked them down with a stick which he had lying by him in the canoe. We observed two killed in this manner, as the steam-boat was passing.

We have been somewhat surprised that so few attempts have been made in this country at domesticating the various species of wild ducks with which our country abounds. The far-famed canvass-back Duck, the dusky or black Duck, our two species of Teal, all of them of a delicious flavor, and the Eider Duck, so highly prized for its down, are still in the wild unsubdued state of nature. The only two species of Duck which can be said to be fully domesticated in this country, are the Mallard and Muscovy Duck. The former, a native of this country as well as of Europe, but brought in a domesticated state from the latter place. The other, a native of Brazil, and carried from thence to Spain. We have seen a flock of Gadwell Ducks domesticated in New-York, which multiplied in domestication without making any attempts at straying off. We have heard that a gentleman at Baltimore was attempting the domestication of the Canvass-back Duck, but do not know the result. It is said that at Boston, the black Duck, (*Anas obscura*) is in possession of several farmers, and succeeds well. In Europe, especially in the Zoological Gardens, their attempts at the domestication of this kind of water fowl, have been attended with much better success. Our summer Duck, a native only of this country, has multiplied to a considerable extent, and is found in the parks and private gardens of many gentlemen both in England and France. At Regents Park, in London, there are large flocks of wild Ducks of 7 or 8 species, so tame, that visitors usually carry with them either grain or biscuits, and they approach within a few feet in order to be fed. Sometimes a flock suddenly rises up, and sails over the city. and after spending a day in the Thames, always return before evening to their peaceful abode.* The Canada Goose, though a foreigner in Europe, is more common in France in a state of domestication, than in this country; and the Swan, a majestic bird, graces the ponds, lakes and rivers, and is particularly interesting in the waters which ornament the Parks of the wealthy in England.

* At the Earl of Derby's residence at Knowsley, we saw a flock of Eider Ducks, brought from the Northern part of Sweden, which were tame, and seemed to be doing well.

LITERARY NOTICES.

THE GREEN HOUSE, HOT HOUSE, AND STOVE, including select lists of the most beautiful species of exotic flowering plants, and directions for their cultivation. By CHARLES MCINTOSH, F. H. S., &c. Wm. S. Orr & Co.: London.

In the neighbourhood of Charleston, it is seldom we require any thing more than a conservatory for the protection and propagation of plants. If this be well constructed, the heat obtained from the sun during the day will be found sufficient. But at times we are visited by a long spell of not only cold, but cloudy, rainy weather, and at such times it often becomes necessary to warm the house in order to protect the more tender plants from injury. In the constructing of a conservatory, therefore, provision should be made for heating it when necessary, and although this may be seldom, yet it cannot be neglected without the risk of losing the labour, perhaps of years, in a single night. The above work furnishes not only all the information which may be necessary for the construction and management of such a building, but also for those calculated for colder climates. It commences with some general remarks on green houses and hot houses, which are followed by an account of, and directions for warming by flues, steam, hot water, management of furnaces, glazing, form and situation. The remainder of the work treats of the *Heathry*, the *Geranium house*, the *Camelia house*, the *Bulb house*, the *Succulent house*, the *Mixed Green house*, the *Conservatory*, the *Orangery*, the *Plant verandah*, *Protecting tent and Cold pit*, *Stove or Tropical Plants*, the *Orehideæ house*, the *Aquarium*, *Palm Stove*, &c., *Scitamineæ or Reedy Plant stove*, and the *Cryptogamic stove*.

Under the appropriate heads, ample directions are given not only for the construction of the houses best suited for growing each genera in, but also for their propagation and treatment both in and out of doors, the best soils, watering and shifting, potting, and general management. To the end of each section is appended a select list of those treated of, with their mode of propagation and time of flowing. Interspersed throughout the work are numerous engravings of the buildings and plants referred to in the text, and many plates of flowers handsomely grouped and beautifully coloured.

The only faults we have noticed in the work, is in the arrangement of the names of plants on the lists, which not being in any order renders it somewhat difficult to find those wanted, without going over the whole. A short description of the plants (or flowers) should also have accompanied each, which would have added much to the value of the work. Another fault we noticed is in the grouping of the flowers on the plates. We are struck by the great beauty of many of them; but although the names are given, yet there is nothing to indicate to which each belongs. These are, however, faults of minor importance. The work abounds in valuable information, and ought to be in the possession of every one desirous of cultivating exotic plants.

To be obtained at the book store of J. P. Beile, King-street, Charleston, S. C.

Note to the Editor.—In a hasty review of Dr. Holbrook's excellent work on North-American Herpetology, I noticed as poisonous *our* species of rattle-snake. It has been printed "one species." This is so material an error, that it would be well to correct it. We have three species of rattle-snake along our Atlantic coast. The Diamond, the Banded, and Ground Rattle. They are all unfortunately found in Carolina, although their numbers have so greatly diminished, that for twenty-five years, in which I have frequently wandered through the woods, I have only met with two specimens. The remaining two poisonous snakes are the water-moccasin (*Trionocephalus piscivorus*,) and the Copper-head (*T. contortrix*.) Our Bead-snake (*Urops fulvius*) has poisonous fangs, but has never been known to bite, although every effort has been made to tempt it to do so. The rest are innocent. We have a species of red headed skink, which has been much abused by a name. It is called scorpion, and is dreaded, and shot as poisonous. It is, however, together with all the kindred genera, quite harmless.

AGRICULTURAL ITEMS.

New Machine for Ginning Sea Island Cotton.—We saw in operation a day or two since at the Steam Saw Mill in this city, a new machine for ginning Sea Island Cotton, invented by Mr. John Beath of Boston, which is pronounced by all our Sea Island Planters who have examined it, as decidedly the best ever invented. In cleaning the Cotton, it differs from the Gins now in use, in this respect, that the seed is separated between half and three quarter inch metal rollers, enclosed in a band, which prevents the Cotton from winding round the roller, or in any way clogging it. The Cotton is kept loose by means of a vibrating or horizontal comb. The other advantages of this new Gin, and they are numerous, can be seen on reference to the advertisement of the inventor, which appears in another part of this paper. We have seen certificates from three Manufacturers in Rhode Island, who state that they have worked Cotton ginned through this machine as fine as No 100—that it does not injure the staple, and that the Cotton worked better than any they have ever used ginned in the ordinary way. In addition to this, it is the opinion of manufacturers and planters that the Cotton is worth 10 per cent. more than that ginned by machines now in use. The inventor will lay before the public next week certificates from numerous planters who have examined and seen the Gins in operation.

Mr. Beath has spent a good deal of time upon this invention, and certainly deserves well of the planters and manufacturers for bringing into use a machine of so much utility, and we hope he will reap a rich reward for his perseverance and enterprise. —*Brunswick (Ga.) Advocate.*

To manage a Rearing Horse.—In preference to the dangerous experiment of pulling a rearing horse backward, I recommend the adoption of the following method:—Whenever you perceive the horse's inclination to rear, separate your reins and prepare for him; the instant he is about to rise slacken one hand and bend or twist his head with the other, keeping your hands low. This bending compels him to move a hind leg, and of necessity brings his fore feet down. Instantly twist him completely round two or three times, which will confuse him very much, and completely throw him off his guard. The moment you have finished twisting him round, place his head in the direction you wish him to proceed, apply the spur sharply, and he will not fail to go forward: if the situation be convenient press him into a gallop, and apply the spur and whip two or three times but not more severely. The horse, will, perhaps, not be quite satisfied with the first defeat, but may feel disposed to try again for the mastery. Should this be the case, you have only to twist him, &c. as before, and you will find that in the second struggle he will be more easily subdued than on the first occasion—in fact, you will perceive him quail under the operation. It rarely happens that a rearing horse, after hav-

ing been treated in the way described, will resort to his tricks a third time. But on going into other hands, and having another rider, he will be very likely to have recourse to rearing. *The Sportsman.*

It is estimated that 100,000,000 pounds of Beet Root Sugar have been manufactured in France the last year, and in Prussia and Germany 30,000,000 pounds. The Troy Whig states that in the Western part of Michigan, 240,000 pounds were manufactured the past season.

The largest cocoonery in the world is at Germantown, Pa. Mr. Physick is the proprietor, and has for this season 2,000,000 of worms, and has 400,000 mulberry trees growing. He is about planting sixty acres more—and the year after next he calculates on feeding 15,000,000 of worms!

When you have finished a job of ploughing, and your plough is to be idle a few days, or weeks, do not leave it exposed to the weather, but put it under shelter without delay. By doing this, you prevent a covering of rust, which will require half a day's work to wear off. The same may be said of other implements, as hoes, scythes, axes, &c. They should always, when not in use, be under cover. *Genesee Far.*

Chester Corn—a new variety.—Last autumn we published a communication from Nathan Cole, Esq., of Chester, Randolph co. Illinois, containing the account of the astonishing proceeds of a single grain of corn, which came up and grew spontaneously in an alley of his garden. Its yield was 6,423 grains. The proceeds he planted in a plat of ground containing 1-8 of an acre, corn measure. That is the rows are 16 by 20, giving 320 hills, had there been no missing ones, of which there appear to be several. Not long since we examined this field of extraordinary corn, and on many stalks counted from 8 to 12 middling sized ears, apparently well filled with grains. A single stalk standing by itself in the garden has *twenty-six* well formed ears, and *twenty-four* more silks and nubbins. Many of the ears are formed on the ends of long branches. It seems to be the tendency of this species of corn to make an effort to throw out an ear at the junction of each leaf on the parent stalk.

This is a variety entirely different from the *Baden* corn, as the grains are a variety of hard white flints, with 16 rows on the ear. Last year from one stalk, Mr. Cole had ten sound ears, one nubbins, and six more cobs formed. The average was 642 grains to each year, or 40 grains to each row on the ear. A field of such corn would produce an immense quantity of the best kind of fodder, and probably it will be found the most profitable to raise it for fodder corn. Mr. Cole will be able to supply seed to a limited extent next spring.

Baptist Banner.

MISCELLANEOUS ITEMS.

The Mabogany Tree in St. Domingo, is tall, straight, and beautiful, with red flowers, and oval lemon sized fruit. When the tree grows on a barren soil, the grain of this wood is beautifully variegated—upon rich ground it is pale, open, and of little value.

The Sponge Fishery.—When at the Island of Rhodes, I went to the sponge fishery, which is curious and interesting. It is a laborious and dangerous employment, but so lucrative, that five or six successful days afford those engaged in it the means of support for an entire year. The sponge is attached to rocks at the bottom of the sea, serving as a retreat to myriads of small crustaceous animals, which occupy its cavities. The fishermen dive for it to the depth of even a hundred feet, and sometimes continue for five or six minutes under water, unless the quantity of sponge they may have collected becomes inconvenient or unmanageable, when they are hauled to the surface by the crew of the boat to which they belong. The divers occasionally fall victims to sharks that attack them under water. The sponge is prepared for the market by being pressed to dislodge the animalcules it contains, and afterwards washed in lie to deprive it of mucilaginous matter.—*Mars Marmont.*

The Snow Bird.—The Snow Bird of America is remarked among ornithologists for the obscurity which hangs round its history. On the first approach of winter it suddenly makes its appearance at the farm-house. Whence it comes, no one can tell; and whither it goes, (for its exit is as sudden as its entrance) no one has yet been able to discover. It is supposed by some to be another bird only that its plumage has been suddenly changed. It delights to hover near hay ricks, feeding on the wheat they contain; while in very bleak weather, when the ground is clad with universal snow, and the air piercing cold, it may be easily attracted to the parlor window by throwing forth a few crumbs—the desolation of its lot causing it to forget its natural fear of man. There is a feeling of melancholy passes over the mind when the bleak and dreary landscape, deserted by all other tenants of the air, is only enlivened with the presence of the mournful Snow Bird. Yet, in the bitterest weather, he is always very gay and lively; and the desolation of the scenery around him seems to have no saddening effect upon his cheerful heart.

A word for the Dumb Creation.—If you keep dogs, let them have free access to water, and if practicable take them out into the fields occasionally, and let them have an opportunity of swimming whenever you have the chance. If you keep birds, do not, as is too commonly practised, expose them in their cages to a hot sun; it is a cruel and fatal mistake. If you do expose them out of doors, cover the tops of their cages with a piece of carpet, or which is better, a green sod or abundance of leaves. Those who have the

care of horses should be especially attentive during sultry weather, to give them water or moisten their mouths. We have often been shocked to see some of the laboring horses, in sultry and dusty weather, foaming at the mouth and ready to drop under the intolerable torments of thirst.—*American Farmer.*

Mortality.—According to the estimate made by the National Endowment Assurance Society, in England, "the children of men" come into the world, and go out, at the following average:

Every moment,	1
" Minute,	60
" Hour,	3,600
" Day, 24 hours,	86,400
" Week, 7 days,	604,800
" Month, 30 days,	2,592,000
" Year, 365 days,	31,536,000
" Generation, 30 years,	946,080,000

A pound not a pound.—A pound of feathers is heavier than a pound of lead; and this for the reason, that when thrown into a scale lightly, as they usually are, and exposed to a large amount of atmosphere, which is buoyant, they will not weigh so much as if they were compressed to the solidity of lead, which has but a little atmospheric air to buoy its particles up. If feathers could be compressed as closely as lead, then it could in truth be said that a pound of feathers weighs just as much as a pound of lead.

Culloden.—The field of Culloden yet bears witness to the carnage of which it was the scene. In the midst of its black and blasted heath, various little emencies are to be seen displaying a lively verdure but too unequivocally expressive of the dreadful tale. These are so distant and well defined, that the eye may almost, by their means trace the position of the armies or at least discover where the fight was most warmly contested. The way towards Inverness, otherwise an unimproved secondary road, is fringed with many such doleful memorials of the dead: and there the daisy and blue belle of Scotland have selected their abode, as if resolved to stand sentinel over the last resting place of their country's heroes. Modern curiosity has in some cases violated these sanctuaries, for the purpose of procuring some relic of the ill-fated warriors, to show as a wonder in the hall of Sassenach; and the Gael, with nobler sentiment, have been till lately, in the habit of pilgrimising to the spot, in order to translate the bones of their friends to consecrated ground, afar in in their own dear glens of the west. But enough, and more than enough, yet remains, to show where Scotland fought her last battle, and the latest examples of her ancient chivalry fell to feed the eagle and reddon the desert. *Chamber's Rebellion in Scotland.*

It is Stated by the Mayor of Boston, that one-fifth of the taxation of the city goes to the public schools.

An old fashioned Marriage Portion.—Captain John Hull, who was one of first founders of the Old South Church, Boston, Captain of the Ancient and Honorable Artillery, a Representative of the town, and in 1630 an Assistant, was a man of wealth. A daughter of his was married to Major Samuel Sewall. As usual in those days, the father was expected to give his daughter a marriage portion. So, father Hull, after his daughter was completely, and richly too, dressed and prepared for the ceremony, caused her to be put into one side of a large pair of scales, in the presence of her friends, and then piled on dollars and crowns, and other silver money until they weighed her down. Report says she was a plump hearty girl. This must have been a fat marriage portion in those days.

Curious.—The Old Colony Memorial states that a crow, or what appears to be of that species, with *white* wings, has been seen in Middleboro', and its vicinity for several months past. Its body is black; it associates with other crows; appears to be of the same habits with other crows, and resembles them excepting in the color of its wings.

Curiosities.—The Georgia Historical Society is in possession of a pair of "Old Put's" snow shoes; a medal struck by Congress in honor of General Greene; a box made from the keel of the "Endeavor," in which Captain Cook first sailed round the world; and, most valuable of all, a musket which was Paul Jones' and used by him in action with the "Serapis."

Crumbs of Comfort for Crippled Gentlemen.—In the last number of the Knickerbocker a story is told, which we commend to the attention of all single gentlemen with their legs shot off. It is this. Captain Sir Robert Barchley, who commanded the British squadron in the battle of Lake Erie, was horribly wounded in that severe action, having lost his right arm and one of his legs. Previous to his leaving England, he was engaged to a young lady, to whom he was tenderly attached. Feeling acutely on his return, that he was but a mere wreck, he sent a friend to the lady, informing her of his mutilated condition, and generously offering to release her from her engagement. "Tell him," replied the noble girl, "that I will joyfully marry him if he only has enough of body left to hold his soul!"

Extraordinary Fox Hunt.—In the annals of fox hunting, we believe, there is not a single instance of a fox hunt terminating in so extraordinary a manner as that which was witnessed a few days since near this town. It appears that the Barony Club hounds, with some dozen of bloods, drew the cover at Holywell, where they had very little trouble in finding. Reynard broke cleverly, passed by Durham, Roxborough, and Munaborough in each of which there are earths. Disdaining to take refuge in either, he faced for Wills-grove or Ranemade. On reaching the beautiful plains beyond the two-mile bush, he stood on a height to see what distance his pursuers were behind, and finding that they were not over anxious to partake of a long

uninterrupted run, or, at least, if at all determined to follow, were inclined to keep at a civil distance, he returned nearly in the same direction he left, and entering a small clump closely planted with large trees, he deliberately ascended one of them, where, extending himself on a branch, he carelessly participated in as much and more of the amusement as the red-coats who eagerly followed him. The hounds also entered the clump, but so trace of Reynard could be found. A hare, that lay quietly in her form, was aroused by the cry of the dogs and set off, giving an excellent run. Reynard still remained on the tree enjoying the sport, till a number of men who followed the horsemen entered the clump and dislodged him, when he slily returned to the place from whence he came, no doubt congratulating himself on his fortunate escape. The Barony bucks must employ a more experienced huntsmen when they next come fox hunting to this neighborhood.—*Roscommon Journal.*

Shooting of Fish.—The inhabitants of Baba suspend a piece of bread over the stream, just touching it. The small fish gather round to pick it, and large ones make darts at the small fish. The sportsman is established in the tree, with his gun pointed on the spot. His dexterity consists in knowing the ways of the large fish sufficiently to hit them at the very instant that they are getting a mouthful of minnows.—*Urquhart's Travels in the East.*

Rain.—The largest drops of rain, which are about one fifth of an inch in diameter, will fall 2,040 feet in a minute; but the ordinary drops in this climate will seldom fall half so fast. Hail-stones in the south of Europe, having sometimes the enormous diameter of two inches, will fall with a velocity of 118½ feet in a second, or more than a mile and a quarter in a minute; a rapidity of stroke which destroys corn-fields and ravages vineyards.

Original cost of Furs.—By comparing the value given to the Indians for their furs, and the price they are sold for by the Hudson's Bay Company in London, we may draw our conclusions as to the oppression of those people. Three marten skins are obtained for a coarse knife, the utmost value of which, including the expense of conveying it to those distant regions, cannot be estimated at more than sixpence; and three of these skins were sold last January, in London, for five guineas: With the more expensive furs, such as the black fox or sea otter, the profit is more than tripled; and but a few years ago, a single skin of the former species sold for fifty guineas, while the native obtained in exchange the value of two shillings.

A gentleman entering the room of some friends with a gloomy face, after having dined with an admiral who was not famous for his hospitality, was rallied on his appearance, and asked him if he had dined to his satisfaction: "No," replied the disappointed guest, growlingly, "the admiral may be a very good sea-lord, but he is a very bad land-lord."